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BOERHAAVE's APHORISMS: Concerning the KNOWLEDGE and CURE OF DISEASES.

Translated from the last EDITION
Printed in *Latin* at *LEYDEN*, 1728.

With useful Observations and Explanations.



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The A U T H O R ' s P R E F A C E.



OU have here a little Book, though small in bulk, yet weighty as to its Contents, and whose Birth is due to no small Labour. This is an ampler Edition, and in some Places more clearly expressing my Meaning than the former. It promiseth Rules, by which you may unfold the Causes of Diseases, and assist Nature in carrying them to their Issue. the Industry of the Antient *Greeks*, the Diligence of the succeeding *Arabians*, and the Exactness of a few among the late Moderns, have supplied us with Ex-

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The AUTHOR's Preface.

periments altogether necessary to the finishing of this Work. But Anatomy and Mechanicks, both better and more universally understood in our Days, have laid the Foundations and spun the Thread of our Reasonings; both of 'em sure! whatever some ignorant or invidious Men may clamour. * *They* hate and revile Things only for being above their Reach; and therefore hurt no body but themselves by their noisy Ignorance: But when they indulge themselves in their Humours of calling this Method Paradoxical, and alledge its Novelty for a Crime and dangerous to be embraced, they only move Laughter and Mirth in such as know better. Whoever is acquainted with the Antients, and compares their Anatomy and Theory of Phy-sick with that of the late Moderns, will see what Improvements have been made; and it is only those, that I allow to be

* Dr. Boerhaave points here at Dr. *Le Mort*, Professor of Chymie at Leyden, who wrote a very foolish Libel in a very scurrilous Stile, against the Mechanical Method, &c.

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able Judges of this Controversy. And I desire them, for whom I have a particular Value, to consider, that these Aphorisms were only design'd for my private Lectures, and thence they'll know the Reasons both of their Brevity and Order. I rather chose to quote no Authors at all, than to crowd this short Treatise with many, which I cou'd not have avoided, to do every Body Justice. Nor have I been guilty of giving magnificent Titles to any simple or compound Medicine. For I do not know any one thing, which is either more prejudicial to the Noble and Generous Art of Physick, or more able to expose it to Reproach or Contempt of such credulous People, as are always ready to try every Thing, that is cried up, and then find by their own Experience that they were deceiv'd. And I cannot admit that any other Qualification doth recommend and raise the Price of one Medicine above another, but the Proportion, wherein each is more properly, seasonably, and prudently applied according to

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all the peculiar Circumstances both of the Patient and the Disease; And in this, I conceive, and speak it without blushing, I have been extreamly clear and positive, at least, I have taken much Pains to be so, *thinking it the very Characteristick of a good Physician to make a true Indication.*

To be short, I conclude, begging the Reader to consider, that this Treatise is wrote in a Stile adapted entirely to the Subject; not with the Elegance of the Augustan Age, which might have pleased some People better, but must have puzzled a greater Number to find out my true Meaning, and wou'd have required more time, than what I can spare from more important Busines. Reader Farewell.



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P R E F A C E
O F T H E
T R A N S L A T O R.

IHOP E all Englishmen in general will be pleased to see in their own Language the Treatise of an Author, whose Reputation is at the greatest Height not only abroad but even here, where a great Number of Physicians think (and with Reason) to recommend themselves highly by letting the World know, that they were Doctor Boerhaave's Disciples: And as Self-Love is an irresistible Argument in most People, they'll still be better pleas'd, when they shall know, that he is a great Admirer of all the famous English Worthies of the last and present Age. Whoever looks into his

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very late Dissertation, De certo compa-
rando in Physicis, he'll find him there ex-
tolling the never to be forgotten Verula-
mius Baco, proclaiming him, Virum ad
omnia quæ Scientia humana comprehen-
dī possunt, indaganda facile principem,
& de quo dubites, utrum Confilio, an
Exemplo, Labore vel Liberalitate major
fuerit in instauranda deformata Physica.

And he adds, that whatever Improvements
have been made in natural History from
the Beginning of the last Century to this
present Day, is altogether owing to the Ad-
monitions, Precepts, and Experiments of
that great Man; who thought it no small
Reproach to his Age, that all mechanic Arts
were every Day advancing, and the Scien-
ces at a stand; and this from an over Re-
gard and Reverence for Antiquity, and
for a few great Men amongst them. Next
to the Lord Bacon, he also expressed his Va-
lue in the most significant Terms for some
but lately deceased, and several yet living
great Mechanics in England, placing Sir
Isaac Newton at the Head of these, and the
great Boyle in the Front of the others.

And

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And as there is no Country like England in Europe, where (notwithstanding the Number of good Physicians, who have sparred no Pains both Abroad and at Home to acquire all the necessary Parts of Knowledge, and for that Reason are more respected, and generally better rewarded, than in any other Parts) so many Surgeons and Apothecaries do practise Phyfick, and administer Remedies without the Advice of a Physician, chiefly in the Country Towns, and at Places distant from such as Physicians have thought it worth their while to settle in; I hope those Gentlemen will not take it amiss if I declare, that it is chiefly for their Sakes, that I have taken the Pains to render this excellent Treatise into the English Tongue, the like whereof was never yet published. For though several, perhaps many, might be capable enough of reading it in the Original Latin, yet I believe the Majority will be glad I have saved them the Pains of studying Words, when they'll be sure to meet with Matter enough to employ all the Attention they are Masters of: And besides, the Latin and Stile of our Author

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uthor is so concise, that a Reader ought to be somewhat used to it; which is my Case, having had the Happiness to have been Dr. Boerhaave's Disciple for two Years together. I was the more ready to undertake it, lest some other might mangle, disguise it, and even have the Front to publish it in his own name, as some Body did not long ago his Institutions. When I said, that no Treatise like to this had ever yet been published, I chiefly intended to shew, that none of the most celebrated Authors had yet begun their Systems in this natural and easy way; from the simplest Body, easiest understood, and visible first to the Microscope, and then to the Eye, rising gradually in the same Order to the least, more and most compound, always in a continued Chain, acquainting his Reader first with those things, which would stop him by the way, if the contrary Method had been taken; whereas you'll see the Generality of other Systems to observe indifferently any, and even the contrary Order, just as it first comes into their Heads, and only fit for a Reader consummate already in the Art, and consequently of little

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or no Use : some begin with the most difficult Diseases of the Head and all its Parts, go on with such as are common to the Thorax and its Contents, then to those of the Abdomen, the Limbs, the Skin, &c. treating of Fevers under a particular Head, as if they were Diseases not to be ranked under any of those Classes. Others begin with the Diseases of Mastication, Deglutition, Concoction, Chylification, Sanguification, Secretions and Excretions, &c. Quot Capita tot Sensus ! And as to the Method of writing aphoristically, Baglivi complain'd a few Years ago of its having been neglected since the Antients, and enumerates the Reasons why it is preferable to all others, shews the Way to it in some Examples, wishing it may be followed for the Improvement of the Art ; but even he is far short of our Author ; for though he saw the Truth, we may say, he saw it as through Clouds, which Dr. Boerhaave has happily dispers'd for the Good of Mankind ; so that henceforth the Reproach of Ars longa will be changed into the Encomium of Scientia certa & brevi paranda.

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I have published it with the Numbers and the repeated Quotations of the Numbers of Aphorisms, thereby to make it necessary to the Reader, (according to the Author's Intention) to read every thing over and over again, and not to run it off like a News-Paper, which would or might have happened, if I had filled up every thing with the References of the Author; besides that it would have swell'd the Book to more than twice the Bulk, and enhanced the Price above what abundance do care to bestow on Books at once.

If the Language is not the purest, I hope that may be forgiven to a Stranger, who but eleven Years ago did not understand one word of English; and lest it should be too faulty, I desired and obtain'd of a judicious Friend of the Profession to overlook my Translation, and to alter what he thought necessary. I have followed his Directions thankfully, but where I thought him not well grounded, which happened chiefly from his not being so well acquainted with the Way of thinking and expressing of Dr. Boerhaave as my self.

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I have done the Author that Justice, not to confound my own Thoughts or Observations with his Text; I have taken care to distinguish the one from t'other by Comma's in the Margin, except only where I give but a short Paraphrase of the Author's Words; and that mostly such a one as I can produce in a Manuscript taken from his own Mouth at his Lectures in Leyden.

I have transposed the Chapter of Rheumatism from the End of the Work immediately after that of the Gout; which I am sure the Author would have done himself, if he had thought to treat of it separately before it was near finish'd, or had not been unwilling to take the Pains to alter all his Numbers and References in the following Chapters; which Trouble I have willingly taken for Order's Sake. There is but seldom Occasion to be of a contrary Opinion to the Author; if any, it is mostly upon account of the different Climate, or Way of Living and Dieting, which has made it necessary to apply different Means, or the same Means in another Method, than what he sometimes adviseth: but I dare speak it, he is never

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never out in his Indications; as they are built upon the clearest Understanding of the animal O Economy, the Texture of the Parts, Motions of the Fluids, and the Power which other Bodies have to cause Alterations in any of these; besides as great an Assistance of Observations and the History of Diseases, as any physical Authors whatever, though of ten Times the Bulk. It is no wonder if we think him acquainted with the Origin of Diseases, and affirm, that he has made the surest Steps towards their Removal; which is all that Dr. Mead requires of the best Physician, and which every impartial Judge, though unacquainted with Mechanics, and consequently therefore no great Lover of 'em, will readily give his Consent to.

Those Gentlemen, for whom I chiefly design'd this Translation, will here in a small Space of Time, and with some Application, learn to avoid Confusion, and to build upon sure Principles; to speak a plainer Language than they have hitherto used, and (which is no small Advantage) they'll be enabled to judge of the true Merit

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Merit of Physicians, and to distinguish between those, who are forced to bide their Ignorance, and confused unsettled Thoughts under the Cloak of a Jargon, which they themselves do not understand, or who have no other Merit than the noisy Clamour of Oxford, Oxford! their Equipages, or the cunning fly Way of engaging Nurses and some ignorant Women in their Interest; not to mention their affected Cant, of naming Providence and God's Blessing upon all Occasions; as if the Almighty could be supposed to alter the mechanical Operation of ill-applied Medicines to shelter them from Blame.

Surgeons will not be displeased to see a great Physician own that internal Diseases depend on the right understanding of external ones of their Province, and that no Physician can be a compleat one, unless he has built upon the Foundation of Surgery.

Apothecaries cannot be sorry to meet with plain Rules to direct 'em in their Intentions (generally their weak Side,) when they shall be concerned alone either with

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with internal Distempers, or upon some emergent Occasion are obliged to act the Part of Surgeons.

And I hope both they and the generality of Physicians will be convinced of my good Intentions, when they shall consider, that I have not increased the Number of Pretenders and Quacks by a multitude of Receipts.

If these my Endeavours for the publick Good meet with tolerable Success, it may encourage me to embrace more Opportunities to further the same.





Dr. BOERHAAVE's Practical Aphorisms.

The I N T R O D U C T I O N.

1.



H A T E V E R State of the hu-
man Body doth disorder the
vital, the natural, or even the
animal Functions of the same,
is called a *Disease*.

2. And that Part of the Science or Art of
Physick, which teacheth how to find out the
Disease actually afflicting the Patient, and how
to cure the same, is called *The Practice of
Physick*.

3. Whosoever therefore is unacquainted with
what is requisite to perform well all vital, natu-
ral, and animal Functions ; and consequently is
ignorant of the Causes of Life and Health ;

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can never discern and know rightly the Defects, that is, the Diseases of them.

4. *A Cure*, therefore, is the *changing of a Disease into Health*; and, consequently, supposeth a Knowledge of what is just now mentioned (3.) and, consequently, the Knowledge and the Cure of Diseases require the Knowledge of those Doctrines which expound what it is, which is strictly termed *Life* and *Health in Man*, viz. the Institutions of Physick, or the Animal Oeconomy, or the Theory of Physick.

5. This *Change* (4.) occasions, or directs a certain Motion, by the *Application* of such Instruments as the Physician ought to know and direct: and so we suppose the Knowledge of all what belongs to Dieting, to Medicines and Surgery, and also the different ways of preparing, and applying all those Means.

6. The *Application* of these Means (5.) is governed and directed by a Fore-knowledge of their Effects: which requireth a general Knowledge of the Laws according to which those Actions are perform'd: which sheweth the Doctrine of the Signs, and the Method of Physick, to be necessary Sciences. So that whoever designs to lay down Rules for the Practice of Physick, ought first to be well acquainted with all the Parts of the Theory and Institutions of Physick. These therefore we shall now suppose not only known, but also demonstrated in another place.

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7. A Disease (i.) when present in a Body, must needs be the bodily effect of a particular Cause directed to that Body.

8. Which Effect being entirely removed, Health is recovered.

9. It may be removed by correcting the Illness itself in particular, *viz.* by the Application of Medicines to the particular diseased Part, or by some Remedies which operate equally upon the whole : The first we'll call *a particular*, the latter *a general Cure*.

10. The way to both, is discovered either by *Observation*, or by *comparing* one Case with another, or by a true *reasoning* from 'em both.

11. Observations are taken, 1. From an exact History of Diseases, giving an Account of the Causes, the Nature, and Effects of the first Ill. 2. From a most nice Account of all such Things, as have proved beneficial or hurtful, whether they were given the Patient designedly, or by chance. 3. From the Inspection of open'd Bodies, the Diseases whereof were very well taken notice of before Death.

12. He concludes from Similitude, who reasons on the Nature and Cure of an unknown Disease, from the Comparison of the present obscure Case before him, with the foregoing Observations.

13. Thirdly, *He* who doth, with the greatest Exactness imaginable, weigh every individual thing that shall or hath happened to his Patient, and may be known from the Observations of his own, or of others (11.), and who after-

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wards compareth all these with one another, and puts them in an opposite View to such Things as happen in a healthy State ; and lastly, from all this, with the niceſt and severest Bridle upon his reasoning Faculty, rifeth to the Knowledge of the very first Cause of the Disease, and of the Remedies fit to remove them ; *He*, and only *He*, deserveth the Name of *a true Physician*.

14. Now the best Method for to give a good and useful History of Diseases, and to teach which way to cure them, must needs be that, *which*,

1. Sets down every particular Disease's each individual Sign and Attribute, such as are peculiarily belonging to the same, or common also to other Distempers, and which performs this from a Self-knowledge, with Deliberation in its proper Place, and, above all, with the exactest Truth.

2. Which enarrates all things that have befall'n the Patient during that particular Disease, from such things as either he did, took, kept, voided, or had applied to him.

3. Which expounds and sets forth the several Helps which a proper Diet, or Surgery, or Medicines do afford, together with the true Method of applying them, whether known by Chance, or from the true and well-reasoned Rules of the Art of Physick.

4. Which forms itself those Rules as certain to be followed in the whole Practice from the three just mentioned, and laid down as granted, with all the Conditions mentioned and required

quired in a true Physician, in the 13th Aphorism.

15. Diseases are so many, that it makes the ranging of them into a particular Order more difficult.

16. But it is the most natural to treat with them first, 1. Which are most thoroughly known. 2. Which in their Nature are the least compound. 3. Which are easiest cured. 4. The Knowledge of which is necessary to understand others.

17. According to which Rules, we shall proceed in the following Order :

18. We shall treat, first, of *the several kinds of the least Compound Diseases*, and their Cure.

19. *The Diseases of the Solids*, and their Cure, consequently claim the first Place.

20. And among these, *the Diseases of the most simple and solid Fibre*, and their Cure, ought to be the first.

Distempers of the solid simple Fibre.

21. Those Parts (which being separated from the Fluid contained in the Vessels, are applied and sticking to each other by the Strength of the living Body, and make the least Fibre) are the least, the simplest, earthy, and hardly changeable from or by virtue of any Cause, which are found in our living Bodies.

22. Hence the reason, why in them, separately considered, no one Distemper was ever observed by Physicians, or mentioned as having been cured.

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23. But in the least Fibre, grown from the Conjunction of those Parts (21.), the following most simple Diseases from 24. to 38. deserve to be taken notice of; for they are frequent, and lay the Foundation for understanding of others; notwithstanding they have hitherto been over-look'd, or not well enough understood. * Baglivi has published a Treatise with a Title, *De fibra motrice & morbofa.*

Distempers of a lax and weak Fibre.

24. *The Weakness of the Fibre,* is that Cohesion of the minutest Parts described (21.), which is so loosely linked, that it may be pulled asunder even by that Degree of Motion which is requisite in healthy Bodies, or not much exceeding it.

25. The same is preceded, 1. By the conversion of the Aliments into the Nature of healthy vital Juices being obstructed; which is owing to the too great Consumption of good Fluids, and to the Sluggishness of the Power of the Solids over the Fluids; or to the too great Toughness of the Aliments overcoming the Powers that should alter them in the Body. 2. By the too weak Application of one Part (21.) to the other, which proceeds from the too weak Motion of the Fluids, and this again mostly from a Want or a Defect of the Muscular Motion. 3. By a too great pulling of the Fibre, being near to a breaking.

26. The Weakness produceth easily a stretching and a breaking of the small Vessels made

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up of those weak Fibres (24.), and consequently abates of their Power over the Fluids therein contained ; from which Distensions arise Tumors, from the Stopping or extravasated Fluids Putrefactions ; and farther, all such innumerable Ills, as are the Consequences of them both.

27. From what has been said (in 24, 25, 26.), one may surely know when any Distemper from weak Fibres is present, past, or coming on ; the Effects thereof may be foreseen, and what is necessary towards the Cure is surely known.

28. The Cure must be obtained, 1. By Aliiments that abound in such Matter as is described (21.) and which be almost so prepar'd beforehand as they are in a strong and a healthy Body ; such are Milk, Eggs, Flesh-broths, Panadoes rightly prepared of well-fermented Bread ; and rough Wines. All which must be given in small Quantities, but often. 2. By increasing and invigorating the Motion of the Solids and Fluids by means of Frictions with a Flesh-brush, or with Flannel ; riding on Horse-back, and in a Coach, or being carried in a Boat ; and lastly, by walking, running, and other bodily Exercises. 3. By a gentle Pressure or Bandage upon the Vessels, and a moderate repelling of the Liquids therein contained. 4. By Medicines both acid and austere, or such as are spirituous and well fermented, but applied with great Caution and Gentleness. 5. By any Means that will remove and remedy the too great pulling of them.

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29. *That Fibre is said to be lax and loose,* whose Parts are in that Degree of Cohesion, that the same Fibre may, with very little Pains and pulling, be made longer than it was before ; from whence it appears, that this is that Sort of Weakness as in (24.), and that the Aptness to bend doth depend from hence ; and consequently, that all these Effects, as well as *the lessened Elasticity of the Fibre*, are clearly understood from what has been said from 21 to 28.

30. And even from thence Answers are ready to all the following Difficulties objected, *viz.* Why watery and fat Aliments occasion a Weakness in the Fibres ? Why the same Fibres are weak in People of a cold Constitution, in young People, such as exercise little, and are still growing ? Why earthy Aliments, and such as have a moderate Roughness, strengthen the Fibres ? Why People of a hot Constitution, and such as exercise much, have strong Fibres ? Why the Fibres have an Elasticity proportioned to their Strength ?

Distempers of the stiff and elastick Fibre.

31. *The too great Stiffness of the Fibre,* is that sticking together of the minutest Parts (21.), which causes them to be linked so closely together, that they will not, or cannot give way to that Power of the Fluids, which, to remain in perfect Health, ought to overcome their Resistance.

32. *The same is occasioned by all those Causes which have been mentioned (28.), as necessary*

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to cure the Weakness of the Fibre, if those Means are applied or continued too long.

33. The Effects of that Stiffness (31.) of the Fibre, are to cause the Vessels made up of them to be less flexible, narrower, shorter, too much resisting and hindering the free Motion of the Liquids, and to occasion all the Disasters mentioned (in 50, 51, 52, 53.) by a necessary Consequence.

34. From which one may know this Distemper (31.) when present, and also foretel the Consequences ; nor is the Method of curing the same less apparent.

35. The Cure is effected, 1. By such Meat and Drink as is thin and watry, without any Roughness, chiefly by the continued Use of Milk-whey, of the softest Herbs and Sallads, Barley-water, thin Gruel, and unfermented Liquors. 2. By avoiding of Exercise, and dwelling in a moist, coolish Air, and taking long Sleeps. 3. By the taking or outwardly applying watry, luke-warm, tasteless Medicines, and such as contain the lightest and softest Oils.

36. From hence is understood *the too great Elasticity* of the Fibre, and likewise how to cure the same, as being generally the Companion or the Effect of the too great Stiffness.

37. And also, why Childrens, Womens, and idle Peoples Fibres are generally lax and loose ; and, on the contrary, why the Fibres, and generally all the solid Parts of full-grown People, of the Male-sex, of laborious People and such as exercise much, are mostly stiff and rigid :

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And why in those, when afflicted with a Palsey, there is a strong Contraction of the affected Parts.

Distempers of the less and larger Vessels.

38. The Diseases of the least Vessels made up of the simplest Fibres (21, 22.) (either by an Application or a Twisting of several together) proceed from the same Causes, have the same Nature and Consequences, and require the same Cure ; and consequently may be learned from 21, to 30.

39. The larger Vessels made up of the small ones by the Application or Twisting of several together, are subject to two several kinds of Diseases. The first of these depends on the Diseases of the smallest Vessels, which make up this large one ; so that the Rise, Nature, Effects, and the Cure thereof must be taken from thence (38). But the latter sort depends, 1. From the Strength with which the Fluid running through this large Vessel doth press upon the Sides of that Vessel in extending the same : which Sides, being made up of the smaller Vessels, are, by this Pressure, deprived of their Fluid ; and if continued, they grow together, and into a solid Fibre, but in a larger sort than that described (21, 23.) Which Effect may also be propagated to the next adjoining small Vessels. 2. From the Nature of the Fluid, which thickens and sticks to the Sides of its proper Vessel.

40. Hence

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40. Hence may clearly be understood, how Vessels are said to be weak, lax, strong, stiff, and elastick ; whereof the Ignorant talk much, without any true Meaning. And the Subject is so noble, that it deserves being treated of more at large.

Distempers of weak and lax Entrails.

41. The Weakness of the Vessels and Entrails, we call that Cohesion of the Parts (23,38,39.) constituting the same, which may be broke with so small a Motion, as to make them incapable of performing, what not only a living, but a healthy State of Body doth require of them.

42. Which are different, according to the different Age or Sex.

43. This Weakness proceeds, 1. From the Weakness of the Fibre (24.), and the Causes thereof (25.) 2. From the Weakness of the smallest Vessels (28.), and its Causes (38.) 3. From the Sluggishness of the Liquid flowing through the larger Vessels (39.) ; which may proceed from its Quantity being lessened, or from its too watery, unspirituous Nature ; or, lastly, from the muscular Motion being grown florer and duller,

44. From the said (41.) Weakness occasioned by the Causes (43.) just mentioned, arise many Diseases ; which are falsely attributed to a bad Constitution, or supposed to be born with the Patient. The chief are, 1. An easy Dilatation of the Vessels and Tumors : an easy Compression and Emptiness of the same : a Stagnation of the Liquids : a more difficult, and even a resisting

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resisting Motion of the Heart : a Crudity of those Liquids which were to acquire a farther Degree of Coction there : a spontaneous Putrefaction of them : an Incapacity thereupon of performing the vital, animal, or natural Functions : and consequently, all the Mischiefs that must follow from these ; which as they are infinite in Number, so be they most difficult to cure, and very fruitful in producing new and unheard-of Distempers ; and chiefly these two general ones, which are noted by the Names of *Kακεξία* and *Kακοχυμία*. 2. An easy Dissolution or Breaking of the Vessels, either from inward or outward Causes, being either sharp, or acted violently : thence an Effusion, a Stagnation, a Corruption and emptying of that Liquid, which is necessary to Life and Health : an Interception of the Motion of the Fluid, through the broken Vessels, and their Putrefaction ; which were preserved entire by means of those Fluids moving through them : these again are many ; and chiefly *Φθίσις*, *Ἐμπόνημα*, *Τύδεωψ*, and *Ἄτρογχία* ; *Consumptions, Imposthumes in the Chest, Dropfies, Falling away and Loss of Flesh.*

45. Which (41, 42, 43, 44.) if any one accurately considers, he shall not only know the Origin, the Presence, and the Event of this (41.), but also of an infinite Number of other and very difficult Diseases ; and he alone can have Success in the finding out and applying of sufficient and safe Remedies.

46. And as for the Application of those, the very Weakness of the Part commands to take

Time

Time for the Cure ; for in no other Case is a sudden Change more pernicious.

47. Therefore Remedies (28.) ought to be administered slowly, cautiously, and rise by degrees in the very Efficacy of 'em : And after the Vessels shall be strengthen'd by their Use, then, and no sooner, let the Muscles be put into a vigorous and strong Motion, 'till it appears from every Particular that now the Vessels and Entrails are become sufficiently compact, solid, and healed, without a fear of breaking there anew.

48. Hence it appears, that what is reported of the Power of Aliments, is false in one sense, and true in another. That the Exercise of the Muscles doth strengthen the Fibres ; that the Exercise of Riding doth dissolve the thicken'd Humours, strengthen the lax Parts without dissipating bodily Strength or the Spirits : That the very Blood of the strongest People is very thick, soft, and kind ; that of the weakest and tenderest, on the contrary, broken, light, and sharp : That a Number of Diseases, in appearance very different, may yet be Branches of the same Tree ; the Root of which being cut, they are all cured of course.

“ Nothing is more common than to advise
“ weak People to ride on Horse-back ; one Mr.
“ *Fuller* wrote a Treatise on purpose to recom-
“ mend that Exercise to consumptive People ;
“ some extend the Precept even to the taking of
“ long Journies either to better or warmer Cli-
“ mates, or to the Patient's own native Country,
“ altho' a worse Air than that wherein the Illness
“ was

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" was contracted : but from this and the preceding Aphorism we learn a certain Rule to advise our Patients by ; and thence it appears that this Exercise ought scarce ever to be advised but in Atrophies or Consumptions of the whole, or such Diseases of the Bowels as proceed from the Laxity of the Fibres and Vessels ; but never where there are Signs of any extravasated Liquids, or of a Dissolution of the Solids into *Pus*.

49. From the same Principles may be known and cured the Laxness of the Vessels and Entrails.

Distempers of the too strong and stiff Entrails.

50. The too great Stiffness of the Vessels and Entrails, is that Coherence of the Parts (23, 38, 39.) of which they are made up, which will not give way to that Degree of Motion, which was to change and move them, that all such Things might be performed, as in a living and healthy State did depend upon, and were occasioned by that Change.

51. It proceeds, 1. From all the Causes that occasion too great a Stiffness in the Fibres (32.) 2. But chiefly from the Fibres being strongly pressed upon each other by the over-powering Strength of the strongly moving Fluids. 3. From the growing together of the Sides of the small Vessels deprived of their Liquid by that strong Pressure, by which the vital Liquid of the Arteries presseth the Sides of the larger Canals ; which Effect is most commonly produced and carried to a Height by any violent Exercise of

the

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the Muscles. 4. From a Vessel which with its proper, thickned, dried up and coagulated Juice, is shut up and grown into a Solid.

52. Where this takes place in Vessels, the Effects are, 1. Alike, or the same with those that proceed from too stiff a Fibre (33.) 2. It occasions so strong a Labour in the Vessels, as to cause the Fibres endeavouring to bring themselves from the Circumference, to their Center, to make their Hollow narrower; to press, squeeze, repel and even to expel their Fluids; and consequently to hinder their Protrusion from the Heart, and also the Action of the Heart itself; they hardly open or dilate themselves; hence interrupt the even Motion and Circulation of the Blood, and consequently the several Secretions; they lessen the Quantity of Blood which the Heart ought to send forth at each beating; hinder the Heart from emptying itself entirely; produce Polypus's from that very remaining Blood, which being squeezed and robbed of its fluid Parts, the Polypus grows harder and bigger, which at last produceth Choakings and sudden Death. 3. In wounded Vessels it occasions great Gaps, because of the great Strength wherewith the several Parts of the Vessels do pull towards their Fastnings; and when they are cut asunder entirely, the Cavity is much lessened at both Ends, or sometimes entirely shut up.

53. From these set down in 31, to 37, and 50, to 52, and clearly apprehended, any intelligent Body may frame to himself Rules, by which

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which he must understand the past, present and future Stiffness, Elasticity, and Power of the Vessels, their present or approaching Action, and the proper Cure for all.

54. For this is effected, 1. By all the Remedies which were set down as proper to cure the Stiffness of the Fibres (35.) 2. And chiefly by all such as lessen the Quantity, the Thickness, and the Pressure of the Blood. 3. By such as suspend the Motion of the Muscles. 4. By all such as moisten, soften, open, dilute, resolve and cleanse.

55. From all these, *viz.* 21, to 55. are sufficiently understood and a Method shewn for curing all the Diseases which are peculiarly belonging to the solid Parts of the Body: And from thence also appears what must be answered to the following Queries. Which be the Difference of the Structure of the solid Parts in the different Ages of Life? Why Man grows, continues for some Years of the same Height, and afterwards in old Age grows shorter again, and less? Why he is sometimes of a loose Texture, sometimes of a strong and stiff one? Why he is sometimes moist and full, at other times dry? Why he dies a natural Death, and must needs die when he is come to a pitch of old Age? And then of what Illness he most commonly dieth? What Distempers are most common to each particular Age? What Diet, what sort of Life, what Medicines are the most adapted to the several Seasons of Life? How far one ought

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ought to believe, and of what use it is ; what has been said about the Stiffness or Laxness of the Solids, &c.

56. We ought now, after the most simple Diseases of the Solids, to treat of the Wounds (16).; but as they always bring along with them Diseases of the Liquids, as from their own Nature, we chuse to treat of these things first, which ought to be known before a compleat History of the Wounds be given.

57. So that we shall treat first of those Distempers of the Fluids, which naturally befall them, either when they are left to themselves, without being any ways affected by their Vessels, or when they are put into too violent, or too sluggish a Motion.

*Of the most simple Defects of the Fluids, and
such as come of their own accord.*

58. The several Humours to be found in a living Man, are either yet crude, retaining the Nature of such Aliments as were lately taken, or have, through the Power of the natural Functions, and the Mixture with the other pre-existent Humours in Man, acquired a Nature very like unto them.

59. The first mentioned (58) are generally taken from Plants, or the Flesh of other Animals.

Spontaneous Diseases from an acid Humour.

60. Our Liquids made up from mealy Plants, or Garden Fruits, either raw or fermented, if

C they

they overcome the Power of our innate Juices, and of Life, acquire in us that Nature and Disposition, as they owe to the Nature of their Producers, when fomented in a moist and moderate Heat. From hence, chiefly, we must derive the *acid Acrimony*, and the more hurtful *glutinous Fat*. The first proceeds chiefly from fermented and not fermented Juices ; the latter, from (*mealy unfermented or boiled*) Aliments. To this Head may likewise be reduced all those Things which, by their Roughness and Astringency, render the Humours viscid.

61. This acid Acrimony (60.) is generally the Product, 1. Of mealy Aliments, juicy Acids, that are new, crude, actually working, or of such Vegetables as have fermented already. 2. Of a want of good Blood in that Body which takes the fore-mentioned Food. 3. Of a weak Texture of the Fibres in the Vessels and Entrails (24, 29, 41.) 4. Of a defective animal Motion.

62. It first takes its Seat in the first Digesters, such as the Stomach and the *Duodenum*, from whence it advances with a slower Pace into the Blood, and at last taints all the Humours of the Body.

63. It occasions sour Belchings, Hunger, a gnawing Pain in the Stomach, most terrible Colicks, with Wind and even Convulsions in the Guts ; a Sluggishness of the *Bilis*, and many Changes and Alterations of the same ; it renders the Chyle sour, and the very Excrements by Stool stink sourish : These are its Effects in the Stomach, and in the Guts.

64. When

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64. When got into the Blood, it causeth it to look pale, and turns the *Serum* newly come out of the Chyle sour : In Women it makes their Milk, Sweat, and Spittle sour ; from hence Itchings, Obstructions, Pimples, Ulcers, Coagulations of the Blood made unable to circulate ; afterwards Prickings of the Brain and the Nerves, whence Convulsions, the whole Circulation of all the Humours interrupted, and lastly Death itself.

65. From these, described from 60 to 65, one may have a certain Knowledge when this acid Acrimony is present, coming, or past : hence also are seen its Effects, and may the Cure be conceived.

66. Which is effected, 1. With Aliments that destroy Sourness, whether taken from Animals, or the vegetable Kind. 2. With Juices like unto well-conditioned Blood, which one may find in Birds of Prey. 3. Strengtheners. 4. With a strong Motion. 5. With Medicines that do absorb and soak in the Acids, that dilute them, blunt the Edges of them, and change 'em.

67. Whereof the Choice, Preparation, Dose, and timely Application are known to the Physician from the Knowledge of the Disease, its Seat, the Patient's Person and Constitution, and many more Circumstances.

68. Hence it appears, why the Diseases of this Kind are so common to Children, to slothful, to poor People, to Maids, and some peculiar Tradesmen ; whereupon consult *Ramazzini de Morbis artificum*.

Diseases from a spontaneous Glew.

69. The glutinous Fat from Vegetables is occasioned, 1. By crude and mealy Aliments, and unripe rough Fruits. 2. By a want of good Blood. 3. By a Weakness of the Vessels, Entrails and Choler. 4. By a Decay of the animal Motion. 5. By a Dissipation of the most fluid Parts of the Blood through the relaxed secretory Vessels. 6. By the Retention of the thicker Parts of the Blood and Humours from the Weakness of those Vessels and Instruments that shou'd thrust them out.

70. It appears first in the first Digesters; hence it flows into the Blood, and afterwards into all the other Liquids that are derived from the Blood.

71. In the first Passages it occasions a prostrate Appetite, a Sense of Fulness; a Nauseating, Vomitings, want of Digestion; a Sluggishness of the Choler, its Slimness and Wasting; it breeds nasty Phlegms in the Stomach and Guts; binds up and swells the Belly; hinders the making, the perfecting, and separating of the Chyle into the Milk-vessels.

72. In the Blood it produceth a Toughness and a Paleness, making its Circulation almost impossible; in the Vessels, Obstructions, Concretions; a pale Urine with scarce any Smell; a slow Spittle; a white Swelling; and the Obstruction of the animal Secretions; a Defect of the finest Juices: from all which, the smallest Vessels do shut up and grow to a Solid.

73. Hence

73. Hence are all the Coctions, Circulations, Secretions, Excretions, all the vital, natural, and animal Motions disordered ; whence Choakings, and Death.

74. From these (69, to 73.) appear the Diagnostic, the Prognostic, and the Remembrance of this Disease ; nor can it be difficult to conclude what must be necessary towards the Cure.

75. Which may be obtained, 1. With using a Diet of things that have fermented well, and are seasoned with Salt and Spices. 2. With Broth made of Volatiles. 3. With whatever may strengthen the Vessels and Bowels. 4. With a gradual Increase of Motion and Exercise. 5. With diluting, resolving, stimulating Medicines, such as carry along with them wherewithal to supply the Want of Choler, and are of a soapy Nature. " It is a just Proportion of (what " may be call'd) *bilioſe Salts* and of Oil that " render the Bile of a soapy Nature, and con- " sequently useful in removing all Distempers " occasioned by a spontaneous Glew ; it is " therefore doing a great Injustice to those Salts, " and to the Bile thus constituted, to accuse " them of being the Authors of most Diseases ; " no matter whether the usual Seat of them " be in the *Stomach*, (as from Inspection and " Anatomy any Body may learn the contrary) " or in the next succeeding Receptacle of the " Aliments, I mean the *Duodenum*, which " is never without Choler of one Kind or " other." 6. With Frictions, Heat, Baths, and Blisterings.

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Distempers of a spontaneous Alcali.

76. Some Plants abound in a Matter, which, if putrefied of its own accord, doth not turn into an acid Substance, nor run together, but melts away into a stinking fat *Alcali*; such are almost all aromatick Plants that have a very sharp Taste: but it's very seldom that so much is taken of them as will from its peculiar Nature create an Illness, but if it should happen, that Disease ought to be ranked among those occasioned by a sharp and oleous *Alcali*.

77. Our Juices formed from the feeding upon Meat must vary, 1. According to the Food wherewith Beasts were fed. 2. According to the different Parts we eat of them.

78. For those Animals which feed upon Herbs and Water make a Chyle either sourish, or easily turning so, and consequently give Milk of the same Nature; which being taken for Food by us, must needs preserve the same Nature as if we ourselves had fed upon those Herbs and Waters 61. to 76. and creates commonly in our Stomachs, and first Passages, a roapy Matter like unto new Cheese, which is a particular Kind of Viscidity.

79. Those that feed upon Animals of another Kind, their Juices turn easily into an *Alcali*.

80. When Aliments with the Strength of our Bodies are so far attenuated (58.) as to be converted into such Liquors as are commonly found in healthy and strong Bodies after four and twenty

twenty Hours Abstinence from Nourishment ; if the same are left by themselves in a warm Place undisturbed, or are violently shook, they'll always acquire the Nature of that beginning Putrefaction.

81. But in Aliments from other Animals this Disposition to a sudden Putrefaction is there already of its own accord, without that Alteration which they undergo in our Bodies.

82. This Corruption 80, 81. indicates that State of the Humours, when the watry Parts do exhale ; the saline Matter being attenuated, deprived of its Acid, or even altered by being separated from its earthy and oily Parts, doth grow sharp, volatile, and of an alcali Nature ; the oily Part also being thinner in one Part, deprived of its Earth, mixed with that sharp Salt, groweth harsh, volatile, and stinking ; but t'other Part of the Oil, being most firmly united with that Earth, which was deprived of its Water, Salt, and the first-mentioned Oil, turns into black, thick Dregs incapable of flowing.

83. Insects, Fishes, amphibious Creatures, Birds, Beasts of all Kinds, and Reptiles, and even Man himself, do, of their own Nature, when dead, all turn into that Corruption (82.) just now described.

84. The Causes which make this Corruption (82.) to follow, are, 1. Aliments from living Creatures (except the Milk of grazing Cattle 78.) chiefly from Insects, Fishes, Birds of Prey, and such Vegetables as are apt to turn into an *Alcali*. 2. A Fulness either of good Blood, or

of such as was already tending to Corruption. 3. A great Strength of the Vessels, of the Bowels, 50. to 54. and of Choler. 4. A Standing or stopping of the Fluids, or too great a Hurry of them, when the animal Motions are either too quick, or too slow. 5. A great Heat where-with the Body is with some Violence long affected.

85. In the first Passages it occasions Thirst, loss of Appetite, stinking Belches ; it fills the Mouth, Tongue, Palate, and Throat with bitter, stinking Filth ; it creates Nauseousness and Vomitings of corrupt, biliary Matter ; "Mark well, that *corrupt, biliary* Matter is the *Effect* of the *spontaneous Alcali*, described in §. 76. which is *vomited up, or voided by Stool*, without any Emetic or Cathartic, but *not the original Cause* of any Disorders : so that, indeed, our Author doth advise, §. 88. № 6. such Correctors for this vicious and corrupt Bile, as, for the sake of these dangerous Symptoms, may gently blunt, and next cleanse the Guts of the same : but you'll find, that he chiefly directs his Precepts towards the correcting and altering that spontaneous Alcali, by Acids, Absorbents, and Diluters ; the other Medicines being directed only either as Palliatives or Easers of the dangerous Symptoms. If this is true of corrupt Choler, how much more innocent is Choler, in its natural State, of all those Mischiefs lately laid to its Charge by Dr. Woodward ? " A stinking Crudity ; a Looseness with much Choler, inflam-

inflammatory iliac Pains, and a very troublesome Heat.

86. When carried into the Blood, it occasions it to be dissolved into a putrid Mass ; it creates there an *Alcali*, oleous, volatile Acrimony ; it renders it unfit for Nutrition ; it makes it apt to consume, destroys the least Vessels, and so on ; disturbs, confounds, and undoes all the Functions of the solid and fluid Parts ; so that the Circulation, Secretion, and Excretion of Humours keep no longer their Course ; and there succeed burning hot Fevers, the Urine and all the separated Juices become fetid and rotten, comes on Inflammations, Imposthumes, Gangrenes, Mortifications, and at last Death itself.

87. From what has been said (from 76. to 86.) one may again know, prognosticate, and even find out the Method to cure this Distemper easily.

88. The Cure may be obtained by, 1. Aliiments that will speedily grow sour, or such as are acid already ; such are all sorts of mealy Eatables boil'd in Water, or left to ferment 'till they began to corrupt ; Milk, and all that can be made from it, carrying along with it the Quality of the Herb ; all ripe Fruits, the Juices thereof, whether raw, or fermented and soured, such as Cyder and Perry. 2. Acid Medicines from the raw Vegetables, or fermented, or from Salts and Brimstone converted into Acids by the Strength of Fire. 3. Such Salts as do devour the Alcali, as Sal Gem, Sea-salt, and Nitre. 4. Watry Diluters. 5. Such as gently do blunt,

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as Emulsions made of the Seeds of Vegetables, or Decoctions of the same. 6. Soapy cleansing Medicines mix'd with Acids and Oils; Oxymel, and acid Conserves and Extracts. 7. Lastly, by Rest, Sleep, Steam-bath or Fomentations.

89. Whence it appears, where and why four Belchings are wholesome after stinking Belches; why and what recovering People do complain of a troublesome Taste of Salt Armoniac; why it is a good Sign, in acute Diseases, when the Patient's Sweat smells sour; what sort of Acrimony it is which ought to be called acid; which are alcaline, bilious, or oleous.

90. Hence, lastly, may be known what Harm the too great or the too little Motion of the circulating Fluids doth, and how much its Consequences and Effects vary, according to the Variety of Places where they stop, and the Humours upon which it operates; what Damages from a stagnating Humour, and what from extravasated and lurking ones.

91. Having considered all the several Diseases of the Solids and the Fluids (that were the simplest) severally; it follows now to treat of those, which occur together both in the Solids and in the Fluids, beginning also with the simplest.

Of Diseases acknowledging no other Cause besides the too quick circulatory Motion.

92. All the Fluids which are contained in any Vessel, that has its Rise from the great Artery, are separated from that Blood only, which a little while before was thoroughly united and mixed

mixed in the right and left Ventrices of the Heart, carrying no other Face than of one even and homogeneous Liquor.

93. It has notwithstanding already, in those very Places, some Globules greater than others, of a particular Size, of a changeable Figure, of a red Colour; and a transparent Water, lighter, thinner, of smaller Particles, but because of their Transparency hardly distinguishable from each other. The first is called *Gore*, and the latter *Serum*. Magnifying-glasses have demonstrated both.

94. The red Gore being settled and separated from the Serum in another Vessel, is, from its lying still only, and the Looseness of its Parts, resolved also into Serum, which seems at last to be the true first Principle of the whole Mass of Blood.

95. The Serum being long kept in a moderate, warm, and moist Air, from lying still, and the Looseness of its Texture, is resolved into a thinner, lighter, and more transparent Liquid: which putrefies by Degrees, and is most of it carried away in Vapour; and the more so, according to the Time it hath been deprived of Motion, &c.

96. The whole Blood, (92.) by Means of a small Heat, little more than what is healthful, and of little Exhalations, runs together into a solid Mass, separable with a Knife, not resolvable by Water, Salt, Oil, or Spirits: And the same peculiar sort of Concretion will befall the Blood by a Degree of Heat just mentioned, though convey'd into it by moist Bodies.

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97. The Redness (93, 94.) and the running together of the Serum (95, 96.) in the Blood, is owing to the Action of the Vessels, and to the Power of Circulation ; as is shewn from the Change of the Chyle, Milk, and Blood, and is confirmed by the Observations made with Microscopes.

98. The Increase of the Motion of the Blood through the Vessels, proceeds from the Heart's being oftener and stronger contracted.

99. The Heart is oftener and stronger contracted, 1. When the Brain, and its Production, the little Brain, are so strongly pressed as to send forth too great a Quantity of the nervous Juice, as it happeneth in the Passions of the Mind, or in Pains. When the Heart itself is irritated by occasioning the returning Blood through the Veins to run quicker than usual, being push'd on by rubbing, or the Action of the Muscles ; or by some Sharpness present in the Blood, whether aromatic, saline, acid, alcaline, purulent, ichorous, or putrefied.

100. The Motion of the Blood being increased in the Vessels, occasions the Blood to run stronger upon and towards the Vessels, which are to receive the same ; a stronger Resistance of the Vessels against the Blood ; a strong Pressure of the Blood upon the Sides of the Vessels, a violent rubbing of the Vessels and the Blood against each other ; a strong rubbing of the several Parts of the Blood among each other ; a greater Heat of the Whole, a Drying up of the Blood from the Dissipation of the most thin watry

watry Particles ; a growing Toughness of the same, easily settling and inflaming ; a breaking of the Blood into sharp and volatile Salts and Oils ; the Mouths of the Vessels at their Beginnings becoming wider ; a forcing of the thicken'd Juices into the smaller Vessels : the following Obstructions of the same hereupon, Destruc-tions, Inflammations, Conversion into Pus, Gan-grenes, Mortifications ; or, if in glandular Parts, into Hardnesses called Schirri, and innumerable more Ills, which follow from all these.

100. The Increase of the Circulation there-fore is known from its Causes (99.) and its Effects (100.) but chiefly from a quick Pulse, and a hard beating of the Artery ; from a swift and laborious Breathing, and a great Heat.

102. The Remedies therefore to restrain the too violent Motion of the Humours, are the same, as are able, and must needs lessen the too frequent and strong Contraction of the Heart.

103. Whereof the first regard the Mind : the latter, the bodily Faculties.

104. The first are such as will allay and mo-derate great Passions by Reasoning, by either causing contrary Passions or Diversions from the same by any Method.

105. The latter operates by causing the Mu-scles to keep quiet, by loosening the Veins in all such manners as have been mentioned (54.), by asluaging the Sharpness of any kind with pro-per Remedies, either diluting or blunting the Edges of it (66, 67, 68.), and by removing the Causes of Pain.

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*Of Distempers from the Defects of Circulation
and a Plethora.*

106. The Diseases proceeding from the Defects of Circulation in the Humours, are very near the same with such as were occasioned by the spontaneous Stoppage of the same, from 58. to 80. so that one must look back to them, to know them, and obtain a Cure. And from all these, one may easily understand what is meant by a *Plethora*, and know its Causes, Effects, Signs, and Remedies, chiefly if the following things be well minded.

α. A *Plethora* is a greater Quantity of well-conditioned Blood, than what will undergo those Changes which must happen in Life, unless Distempers intervene, and disturb them.

β. The same is created by every thing that maketh a great Quantity of good Chyle and Blood, and at the same time hindereth their Attenuation, Consumption, and Perspiration through the Pores of the Skin.

γ. Hereto refer a great Power of the Bowels, which are employed in the Chylification, to strain themselves, which is also in the Heart and Arteries; and at the same time a looser Texture in the Veins, and other small Vessels: hereto contribute also such soft Aliments as are easily converted into Chyle; much Sleep; an easy Mind; a Rest of the Muscles; a Habit of Bleeding, whether naturally, or with the Launcet.

δ. The

§. The Effects of a *Plethora* proceed altogether from that sort of inward Motion of the Blood and Juices, which doth not come up to a Fermentation, and which we call a *Rarefaction*, and from the Heat occasioned thereby: from hence a Dilatation or a Widening of the Blood and lymphatick Arteries; the Change and Interruption of the Secretion; a Compression of all the Veins, both them that carry back the Lympha, and such as carry the Blood; a stifling of what should circulate; Inflammations; a breaking of the Vessels; Imposthumes; Gangrenes; and then Death.

¶. So that it is easy to know when this Disease is present, and to foresee the Effects of it.

¶. The Cure is performed, by letting of Blood, Exercise, and Waking; by a more sharp Diet after due Evacuations, and leaving them off gradually.

*Diseases the least compound, Obstructions,
and Wounds.*

107. An Obstruction, is the shutting up of a Canal, and denying the Passage to a Liquid which should go and flow through the same, whether it be vital, sound, or depraved, proceeding from the Size of the Matter that should pass, exceeding the Cavity of the Canal through which it should be let pass.

108. Which may again proceed from the Narrowness of the Vessel, the Bigness of the presenting Body, or both happening together.

109. The

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109. The Vessel may become too narrow if outwardly pressed ; if it contracts itself, or if the Sides of the Vessel grow thicker.

110. The Bulk of the small Bodies grows too big, either by the Sliminess of the Fluid, or by having mistaken their Passage.

111. When these two meet together, the Obstruction is the more obstinate and difficult to remove (109, 110.)

112. The Vessels may be pressed outwardly :

1. By a neighbouring Tumour from Fulness, which is inflamed, full of Matter, schirrous, cancerous, pituitous, puff'd up in the Form of a Bottle, from a distended Artery called *Aneurisma*, or a Vein called *Varix* ; by Knobs in the Bones or Callosities, or some Slime or Stones.

2. By some hard and solid Parts, such as Bones being broke, disjointed, distorted, or drawn out of their natural Position, and therefore pressing upon the neighbouring softer Parts, which must give Way.

3. By any Cause, which draws the Vessels too much, and makes 'em longer, whether it be a Tumour, or the Pressure of a Part out of its due Position, or any external pulling Agent.

4. By external Causes out of the Body, such are too narrow Cloaths, Girdles, the Weight of the Body resting too much upon one Part, Ligatures, &c. Here also belongs the moving, the rubbing, or a particular Part being too much squeez'd by some other Body.

113. When

113. When that Contraction which is peculiar to each Vessel is increased, chiefly such as have winding Fibres, and also such as have them long, the Cavity of the Vessel is made narrow, and proceeds, 1. From any Cause which doth increase the elastick Power of the Fibre, of the Vessel, and of the Bowel, mentioned (31, 36, 40, 50, 51.) 2. From a Tumour of the lesser Vessels, out of which the Sides of the large ones and the Canals are form'd, when too much filled. 3. From the lessening of the Cause, which extends the Vessels, whether it be Emptiness, or Slothfulness : whence follows, that the Canals being cut asunder, will soon stop the running out of their proper Fluid.

114. The Thickness is increased in the very Membrane of the Vessel, 1. By any Tumour (112. No 1. in any of those Vessels whose Union and Contexture makes up the Membrane. 2. By Callosities grown there; whether cartilagenous, membranous, or even osseous (51.)

115. The Bulk of the fluid Parts is increased to that Degree as to be incapable of flowing, 1. Either by changing their spherical Figure into another, presenting itself in a larger Size to the Mouth of the Canal. 2. Or by the joining several together into one, which were single before.

116. The Figure is chiefly altered, when that even Pressure of the smallest Particles, now left to their own Elasticity, which used to work and to press from all Sides together and equally, is

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ceased; that is, when Motion is become languid, or the Vessel loosened, or the Quantity of the Liquid is lessened.

117. The small Particles run into one, by too great a Rest, Cold, Frost, Drying, Heat, a violent circular Motion, and the pressing of a strong Vessel; by an acid, austere, spirituous or absorbing Coagulum, by a Slime, or an Oil.

118. The Particles of Fluids having mistaken their Passage, are stopt, when a small Body of them runs into the dilated Mouth of a Canal, the Extremities whereof they cannot pass. This Dilatation is chiefly created by a Fulness, an increased Motion, a Rarefaction of the Fluid, a Relaxation of the Vessel; and, most of all, if these having preceded, the Contraries follow soon after: *Which is the most immediate Cause of all Colds.*

119. Hence are manifest the Causes and Nature of all Obstructions whatsoever.

120. Which happening in a living Body, hindereth the Passage of such Matters as should flow on; they stop as many as run in upon 'em; they receive their Shock; the thinnest Parts are squeez'd out; the thicker run into one Mass; the Vessel is extended, dilated, made thinner, dissolved; the stagnating Liquor is thicken'd; the Function depending from the regular Flux of the Liquid is destroy'd; the Vessels which were to be supply'd from thence run empty, and dry; the Vessels are les and less able to transmit their Liquids; the Quantity of Liquors in the Vessels free from this Obstruction increases, and so doth

the

the Quickness of the Motion, and consequently produces all the Ills which may be occasioned thereby.

121. Hence, according to the Difference of the Vessel obstructed, and of the Matter causing the Obstruction, do those Effects (120.) appear, accompanied by different Symptoms.

122. In arterious Blood-vessels are produced Inflammations of the first Kind: in the dilated lymphatic Arteries, Inflammations of the second Kind; in the larger Lymphatics, pituitous Swellings; in the lesser Lymphatics, Pains without any apparent Tumour: and different are the Effects of Obstructions in the Producers of Fat, in the Vessels of the Bones, of the Marrow, of the Nerves, and of Choler.

123. So that whoever knows what has been said from 107, to 123. of the Nature, the Matter, the Causes, and Effects of Obstructions, he cannot be ignorant of the Signs of an approaching, or already present, Obstruction, and the Effects thereof.

124. And if once he knows their different Sorts, it will not be very difficult for him to find out the proper Cure, and the Means thereof.

125. For that Obstruction which ariseth from an external Pressure (112.) requireth the Removal of whatever is the Cause of that Pressure, which, were it possible, must be taken from its Description, to follow hereafter.

126. But that which ariseth from the increased Contraction of the Fibres, is known

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from the Signs, which shew the Contraction of the Bowel, of the Vessel, and of the Fibre (34, 36, 40, 50, 53.) And so is that known, where that Contraction proceeds from the second Cause (113. No 2.) viz. Tumours in the small Vessels, which constitute the Membrane of the Canal; and also the latter, which is occasioned by a Contraction of the Vessel, after a great Loss of Blood or Fluid peculiar to the Vessel.

127. This Obstruction described (113, 126.) is cured, 1. By such Remedies as will correct the too great Contraction of the Fibre, of the Vessel, and of the Entrail (35, 36, 38, 54, 55.) 2. Chiefly, if they can be applied to the very Part affected, and their Virtue communicated; and chiefly by Steams, Fomentations, Bathings, Liniments, or Plasters. 3. By such Helps, as will empty the Vessels of the Membranes, when too much distended and fill'd. Whereto belong all Evacuations in general, but chiefly such as can be applied to these same Vessels; such are loosening, diluting, resolving, attenuating, cleansing, purging Medicines. 4. By such as are capable to melt and dissolve a Callosity already created.

128. But this latter sort of Obstruction can seldom, if ever, be cured. Emollient and opening Medicines are the chief: from whence it follows, that the Animal cannot avoid dying; and that it is Matter of very great Difficulty to procure a long Life, even with the Help of the most proper and best applied Medicines.

129. When

129. When the Fluid is become incapable of passing through, which proceeds from the Loss of its spherical Figure ; it is known, by looking into the Causes thereof (116.), for they are mostly apparent to the Eye, or the Microscope.

130. This Obstruction is cured with the Help of such Remedies as do restore that Figure to the Fluid, which are such as increase their Motion through the Vessels and Bowels ; such are also almost all stimulating and strengthening Medicines ; and, lastly, an Increase of the animal Motion.

131. And whereas the too great Thickness of the Liquid, and its Tenacity, proceeds from so many and so widely different Causes (117.) they require therefore different Methods of Cure, and different Remedies, according to their Nature ; which Difference being enquired into in each particular Disease, will indicate its proper and peculiar Remedies and Applications.

132. But the Thickness of the Liquids in general is remedied, 1. By inducing an alternative Motion in the Vessels. 2. By Diluting. 3. By an attenuating Liquor being carried into it, mixed and moved with it. 4. By fetching out or evacuating the Cause which did coagulate, and thicken.

133. Those things will bring an alternative Motion in the Vessel, 1. Which do temperate whatever occasioned the too great Distension of the Vessel ; such is Bleeding. 2. Which do strengthen the Vessels (28, 29, 45, 46, 47, 49.)

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3. Rubbings, and the Motion of the Muscle.
4. Stimulating Medicines.

134. *Diluting* may be performed by warm Water chiefly, if drank in great Quantity, if injected by way of Glysters, or the Steams thereof, be received, if applied outwardly to the Part, and, as much as possible, be drove to the Part where the Obstruction is, and wants to be removed. Hereto belong such as turn another Way, as draw on, and push forwards.

135. The following Things do *attenuate* ;
1. Water. 2. Common Salt, Sal Gem, Ammoniac, Nitre, Borax, fix'd or volatile Alcali.
3. Natural Soaps consisting of an Alcali and an Oil ; or compound, sooty, volatile, fix'd, or Choler itself. " Among the many Medicines " which the Author mentions as capable of " remedying the Thickness of the Liquids of our " Bodies by their *attenuating Power*, is the " Bile ; whose chief Perfection consists in cau- " sing the different Aliments, producing Juices " of a different Consistency, to be mixed and " united, as it were, into one homogeneous Li- " quor, called Chyle, which, without this at- " tenuating Power of the Bile, would hardly " ever be able to enter the Laetearia, and our " Blood, there to perform the Work of Nu- " trition. That this Quality is in the Bile, " Limners and Dyers know : so that to accuse " it of so many Evils as Dr. Woodward does " in his *State of Physick*, is giving the Lie to " all the Experiments made on that excellent
" Juice,

“ Juice ; about which, consult more particularly
“ *Gulielmi de Sanguine & Bile* : And to be
“ convinc'd that all these Mischiefs can be
“ imputed only to a vitiated Bile, either from
“ some Defect of the Liver, the *Vesica Biliari*,
“ or its Stagnation in the *Duodenum*, consult
“ *Hoffmanni Dissertationem Physico-Medicam*
“ *de Duodeno.*” 4. Mercurial Preparations ;
which may be convey'd to the Place affected, by
such as turn the Humour another Way, such as
draw and push towards it.

136. The coagulating and thickening Cause
is fetch'd out, by drawing of another Liquor
whose drawing Power is stronger. Thus the
Acids work upon the Alcalis, the Oils upon the
Alcalis, &c. which are chiefly found out from
Experiments in Chymie.

137. But when a Liquid is got into a wrong
and strange Place, and cannot clear its Passage,
and so forms Obstructions, then are many and
very malignant Diseases created ; so that this
Ill ought and deserveth to be most carefully
minded.

138. We know this to be the Case, 1. If
we are acquainted that its Causes (118.) have
preceded, which are generally easily noted.
2. That the contrary Operations have soon after
followed. 3. If we see its Effects very distinctly,
as set down (120, 121, 122.)

139. And it is also easy to foretel what will
be the Consequence of this Ill, if we look back
to 120, to 123.

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140. The Cure is performed, 1. By pushing the obstructed Matter backwards by a retrograde Motion into the larger Vessels. 2. By resolving the same. 3. Relaxing the Vessel. 4. Or suppurating the Matter itself.

141. This Matter may be wrought back again from its Prison, 1. By evacuating the Liquor, which is pressing in upon it, and driving it in closer, *viz.* a large, and sudden opening of a Vein ; which will occasion a straining in the very Vessel obstructed, and so the Matter will be push'd back again. 2. By Rubbings from the Extremities to the Mouth of the Vessel.

142. It may be resolved by Medicines named above, from (133, to 137.)

143. The Vessels may be made looser by Means mentioned in (35, 36, 54.)

144. Of the Manner of promoting Suppuration, or the turning into Pus or Matter, we shall speak more at large when we come to treat of Inflammations.

Of Wounds in general.

145. A Wound is the Separation of the Union of soft Parts, by hard and sharp Bodies.

146. The sensible and mechanical Cause therefore, is the Hardness, the Sharpness, and the Motion of the wounding Instrument.

147. The Receiver must be a soft Part, consequently a Knot or Contexture of Blood-vessels, Lymphaticks, such as are adipous, nervous, membranous, tendinous, and, lastly, full of such little Bladders as are made of them.

148. In

148. In which Receiver (147.) the Instrument (146.) causes a Separation of what was united, and the shedding of the contain'd Liquids.

149. So that it disturbs the Actions, which depend from the Integrity, Wholeness, of those Parts, and from a determined Course of those Liquids through the Vessels.

150. All Wounds therefore that invade such Parts, whereof the Wholeness is necessary to make Life subsist, are called *Mortal*.

151. Of these (150.) there are such as occasion Death unavoidably.

152. Others, if left to themselves, occasion Death; but may so far be remedy'd by the Art of Surgery, that the Danger of Death ceaseth.

153. Lastly, Some Wounds may become or be made mortal, which were not so of their own Nature, when neglected, or when wrong Applications are made to 'em.

154. According to the different Actions, which were before performed by the whole and unwounded Part, do arise the several other Effects of Wounds, and acquire from thence their several Names, which are seldom unknown to any one acquainted with the Functions of the several Parts of the sound Body.

155. Nor is the Difference of Names, Forms, and Effects of the several Wounds, less, according to the different Cause or Weapon occasioning or giving the Wound (146.), the Difference of its Shape, Manner of Assault, either by pointing, cutting,

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cutting, hewing, or by moving to and fro ; the Degree of Strength in driving in and removing out of the Wound, the Time of its remaining there, and the poisonous Quality of the same.

156. These (155.) again vary according to the Difference of each Part receiving the (147.) Wound, its Hardness, Softness, Connexion, Situation, Effect, the several Liquids thereto flowing, and the great Change in its Shape.

157. Though it is necessary to know exactly well all the many and different Beginnings of it, yet is there little Occasion to dwell here upon a nice History of its several Names.

158. If a Wound is made in a healthy and strong Body, in a visible Place, not containing any large Artery, nor very tendinous ; the following Symptoms arise, provided the Gash or wounded Part be not exposed to the Air, or Cold, and be kept from growing dry.

1. The Parts between which the wounding Instrument has been thrust, do part gradually more and more asunder, notwithstanding the Instrument be removed, unless it be a very small Puncture.

2. The Blood runs out at first with Violence, and stops afterwards gradually of itself.

3. Then grows a bloody Crust in at the Hollow of the Wounds.

4. And a thin Liquor, somewhat reddish and faint-colour'd, flows out of the separated Fibres.

5. Now begin the Lips of the Wound to grow red, hot, painful, to swell, and to turn back ; and at the same time the Bottom of it begins to rise and swell.

6. At

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6. At the same time the Patient grows sensible of a little Fever, with Heat, and Thirst.

7. About the third or fourth Day, sooner or later, begin to appear in the Wound a sticking Liquor, white, faintish, even, which we call *Pus* or *Matter*.

8. At the same time you find the Redness, Heat, Pain, Swelling, the drawing or turning of the Lips, and the Fever, either to cease entirely, or to relent.

9. And, by degrees, the Hollow of the Wound is fill'd with growing Flesh from the Bottom upwards, and from the Circumference to the Centre; the Brims getting together by means of a white, blueish, soft, and even Substance.

10. Lastly, The Wound is dried up, and covered over with a Scar.

159. If an Artery (not of a very large Diameter) not too near the Heart, is entirely cut asunder, it shrinks back and hides itself among its neighbouring Solids, and so stops up its own Self, and then follow all what has been mentioned (158.) just now.

160. If the same (159.) is wounded across, but not entirely cut asunder, the Wound is made wider through the pulling of the Fibres, from whence an incessant Loss of Blood; and after that is stopped, an *Aneurisme* from the Thinness of the Skin growing over the Wound, which, for that Reason, gives way, and is extended into the Shape and Nature of a Bag.

161. If a large Artery be entirely cut asunder, there follows an incessant Bleeding, until Swoon-

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Swooning, or Death ; the Parts below the Artery fall away, and are at last consumed by an ugly, but slow Gangrene, or else, growing dry, are quite contracted.

162. If any Nerves be entirely cut asunder, they shrink back, hide themselves, draw the Branches that are a little above the Wound, stretch them, create in the neighbouring Parts Obstructions and Pain ; and as to the Parts below the Wound, they become insensible, immovable, and waste away, or are mortified.

163. Nerves that are over-stretch'd, prick'd, or half cut asunder, create Pains, which at first are sometimes dull, and sometimes very quick and acute ; first in the wounded Place itself, and then in all the adjoining and neighbouring Nerves ; from hence Heats, Tumors, Rednesses widely spreading, Fevers, a Delirium, Convulsions, an Inflammation ; an opening of the inflamed Part with a running of a sharp, thin, and often copious Serum ; afterwards follow the Loss of Feeling, a Stiffness, a Withering, and Unmoveableness of the Part, or otherwise a Gangrene, and Death. And all these Symptoms will be the more violent, according to the greater Distention of the Nerve, and the Strength and Firmness of the Parts on which it lies, to which it is join'd, and by which it is encompassed.

164. All which (162, 163.) with a very little Difference, but very much exasperated, happen in the wounded Tendons.

165. And

165. And the Membranes are subject to the same Disasters (162, 163.), as being mostly Compounds, and Products of Nerves and Tendons.

166. What lymphatic Vessels, such as contain Fat, and the Veins and small Bladders do undergo in Wounds, what they will occasion, is easily understood from the Laws of Circulation, and by considering the Nature of their Neighbourhood.

167. If the Wound lieth open to View, it is soon known to be, and its Nature is also soon understood, 1. By the Sight itself, having removed what covered it, and having stopped the Running and Loss of Blood. 2. By having an anatomical Knowledge of the neighbouring Parts.

168. But the Presence of an hidden Wound, and its Nature, are known, 1. From anatomical Knowledge, from the Position the Patient was in when he received the Wound, from the Manner and Strength wherewith it was given. 2. From the Defect of the Function following the Wound. 3. From the Discharge of the Wound, whether within or without the Body. 4. From the consequent Symptoms, such as Pain, Hiccough, Convulsion, Tumour, &c.

169. By knowing (167, 168.), it is easy to foretel the Events.

1. Whether the wounded Patient will live or die.

2. Whether the Cures be possible or impossible, entire, or only in part.

3. Whe-

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3. Whether the Cure be easy, or difficult, like to be long, or short.

4. What Effects from the Wound will remain after the Cure; whether a Wasting, Numbness,, Stiffnes, Unavoidableness, and Disfiguration.

170. Unavoidable Death from a Wound, follows from five Effects, and consequently, before a Jury, such must be called mortal Wounds (151.)

1. As cut off the Influx of the nervous Juice from the hind Brain to the Heart. α . The Wounds of the little or hind Brain, called *Cerebellum*, and such of the Brain as are deep enough to inflict a great Wound in the long Marrow *Medulla oblongata*. β . The Blood-vessels within the Skull being broke with an Effusion of Blood, which kills either by pressing hard, or by putrefying there, when it cannot be taken out by means of Trepanning, by reason of the Place where that Operation cannot be perform'd; which are chiefly the *Fontanelle* of the Head in Children ; the Sutures, the superciliary Sinus, the Temples, the inferior Parts of the Head, &c. γ . Deep Wounds in the Marrow of the Backbone, near the Neck. δ . And, lastly, such as cut off the Nerves of the Heart, call'd *Nervi Cardiaci*.

2. Such as occasion the Blood of the Heart to rush forth through the Orifices of its pierced Ventricles : so that all Wounds of the Heart, deep enough to penetrate into either of its Ventricles, are mortal.

3. Such

3. Such as turn off the Blood from the Heart, from the Brain, and little Brain, either into the Cavities of the Body, or out of the Body itself, and cannot be healed because of their Situation: such are the large Wounds in the Lungs, Liver, Spleen, Kidnies, Pancreas, Mesentery, Stomach, and Guts; of the Womb in pregnant Women; of the Bladder near its large Arteries; of the Aorta, the carotick and vertebral Arteries, and other Arteries and Veins of the like Importance, and difficult Acces.

4. Such as intercept Respiration or Breathing entirely; as, the cutting of the Larinx when the separated Pipe is withdrawn; large Wounds of the Bronchia, of both the Cavities of the Chest letting in the Air, of the Diaphragm penetrating through both Sides of the Mediastinum of the Chest, or cutting its Sinews asunder.

5. Such as hinder the Motion of the Chyle towards the Heart; as, the cutting through of the Gullet, large Wounds in the Stomach, of the thin Guts chiefly, if cut through at the Beginning; a Wound in the *Thoracic Duct* or Cistern of the Chyle.

171. Wounds of their own Nature mortal, but curable by Art (152.) are as follow, and may be reported as such:

1. Wounds of the Brain that are com'atible by Trepanning.

2. Wounds of large Arteries or Veins situated so as to admit the Hand and Application of the Surgeon.

3. Wounds

3. Wounds of Bowels, where the Hand and Medicines may not only be applied, but also retained long enough to heal them.

4. Such as kill, by letting out their Liquids into such Cavities whence they may be taken out without endangering Life; as the Chest, the lower Belly, the Ureters, Bladder, and some Wounds of the Guts.

172. One may foretel a Wound shall be mortal, which was not such of its own Nature (153.) from these Causes;

1. From omitting to cleanse and discharge extravasated Pus, whence a Wasting; or the leaving of extravasated Blood in such Cavities where it must needs putrefy.

2. From Errors committed in the Non-naturals; of which see our Author's *Institutions* at large, lately made English by one Dr. Brown.

3. From a Neglect or a Mistake of the Surgeon.

4. From the natural or sickly Constitution of the Patient, as it may appear from his own Account and Relation of himself, or which may sometimes be so very particular, as to be only found out and known by such an Accident; which a judicious Physician ought always to have a Regard to, in writing his Opinion to a Court of Judicature.

173. From these, Surgeons may give in their Judgment concerning the Nature of Wounds, and the Time within which they'll prove mortal, or kill actually.

174. Hence

174. Hence (from 145, to 173.) a Declaration may be made on Wounds, and a probable Estimate given of whatever, according to 169, ought to be foretold of Wounds.

175. But the different Symptoms (158, 159.) as to their Causes, are easily known to any one who understands how, and with what Instrument the vital and animal Functions are performed. Look back to what has been premised of the Diseases of the Solids and Fluids.

176. When the outward Coat of an Artery (the inward remaining entire) is either prick'd, cut, bruised, drawn asunder, or corroded, the Artery, through the Force of the Blood, is dilated, and forms a Purse or Bag, which by degrees will grow to the Bigness of an Egg, acquireth Sides or Membranes, which at length grow callous ; the same beats strong, in Proportion to its Size ; shines with a reddish Colour ; if squeezed, it disappears, the Blood retiring into its natural Channel, the Artery, and comes again when pressing is discontinued ; it makes its Artery wider ; and the neighbouring Vessels, by pressing upon 'em, narrower : This is call'd *a true Aneurism* (160), whereof the Cause, Signs, and Effects are plainly discovered.

177. If an Artery is wounded by the same Causes, and is not well enough consolidated, the same Effects will follow as in (176.)

178. When from the same Causes (176.) all the Coats of an Artery are broke at once, and let out its Blood into the next extended Parts without voiding the same ; there is soon made

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a Swelling, from the Collection of the extravasated Blood still increasing without measure; which Swelling is soft, hardly beating, the Skin livid, scarce giving way when pressed, soon rotting, and soon occasioning a Gangrene of the adjacent Parts. This is *the spurious Aneurism* (160.), whereof the Cause, Signs, and Effects are easily known from this very Description.

179. Other Effects from the cutting of a large Artery, are soon known out of the Physiology, as well as the Signs and Effects which appear immediately upon the cutting of a Nerve asunder (161, 162.)

180. But that we may have just and clear Notions whence the stupendous Effects proceed of the *prick'd or half-divided Nerves*, as in (163, 164, 165.), we must consider what follows, fetch'd from the Knowledge of Anatomy, and the animal Oeconomy.

181. Every visible Nerve, is a small Bundle of less Nerves tied together by small Skins, Arteries, Veins, and interwoven Lymphatics, which afterwards are all covered over with one common Membrane. Through all these little Vessels that make up the Nerve, there flows continually a Liquor proper to each Channel, from the Heart, Brain, Cerebellum, and the Medulla Spinalis. All these have ever a pretty strong Power of contracting themselves.

182. Therefore the Parts of a *Nerve entirely cut asunder* do shrink back from the Place where the Wound was given, towards the firm Parts to which they are annexed; they hide them-

themselves among the adjacent and surrounding Solids, they are kept under by their Pressure, their Orifices shut up together with those of all its Vessels ; so that no other Damage follows than what was laid in (162.)

183. But if the Nerve be so cut or prick'd, that only some of the small Nerves be separated, whose Connexion made up the said greater Nerve, then the separated Parts going backwards (182.), will draw the smallest Fibres which did tie the small Nerves and Vessels together (181.) ; so that there will be in them a continual flow Tearing, and consequently a continual great and acute Pain : Now must the Parts, that are still united, sustain alone the whole Power which they did before in conjunction with the former ; so that they must be more pull'd asunder, and tore, and thereby must suffer very acute Pains ; and being so violently pull'd, they'll be squeezed so, as to let none of the Juices pass. While the separated Parts on one hand, and the coherent on the other, are thus affected, the Vessels between both are squeezed also ; so that all is stop-ped in their Passage, Blood, Lympha, and Spi-rits, which are drove on, and heap'd up ; so that all round the Parts are produced Inflammations of the three Kinds ; the Bloody, the Lym-phatick, and Spirituous. Hence are all the neig-hbouring Nerves, Tendons, and the Sheaths of those Nerves, their Muscles, Vessels, &c. ex-tended, stretch'd, press'd, and even convuls'd ; from whence the Skins that cover the Brain, little Brain, and Back-bone Marrow, suffer by

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Pullings and Vellications, which disturb all the Actions of the Brain.

Whence follows unavoidably the black List of all those terrible Symptoms summ'd up in (163, 164, 165.)

184. And it is understood which and why the Pricking, Tearing, and Wound of the Nerves be so fatal ; and also, why the Membranes, Tendons, and some Vessels are subject to the same ill Symptoms.

185. *That a Wound may heal*, it is necessary,

1. To remove out of the same all, which left there, would hinder its uniting, whether they be corrupted Liquids or Solids, or Parts of the wounding Instruments, or any other Bodies thrust in there, &c.

2. To supply the Loss of Substance, by procuring the Growth of new.

3. To unite the sever'd Parts, and to contain them in that Union.

4. To close up the Surface of the Wound, by the Production of a Skin most like unto the former, and endeavouring not to leave a greater Scar than needs must be.

186. Fragments drove into a Wound, whether Metals, Stones, Wood, Glass, Bullets, congealed Blood, dead Flesh, Skins, broken Bones, or Splinters ; all these ought first of all to be removed, if it can be done without causing a greater Inconveniency.

187. It will be plain to the Surgeon, from the Nature of the Wound, duly considered, of

the

the wounded Part, of the Matters therein driven, from the Strength of the Patient, from the Symptoms which may or must thereupon follow; whether he ought to leave them there 'till a fitter Opportunity, or take 'em out.

183. From the same Circumstance (187.) doth it appear with what Instruments, and after what manner they ought to be removed (186.)

189. The Wound thus (186, 187, 188.) cleans'd, if any thing has been taken away from the Substance of the Body, it ought to be fill'd up again with a Substance like unto the former. This may be done, 1. If the small Arteries, lymphatic Vessels, and Nerves are thus again placed and fastened as to receive their own proper Juices, and to transmit them. 2. If that sound and natural Liquid flows in a due Quantity, and with a due Force into those Channels.

190. For hereby (189.) will the Canals and Vessels, that were wounded, drawn back, shut up, squeezed, and most dried up (158.) be fill'd again, moistened, extended, lengthened, applied to such others of the reticular Plexus's as are nearest; lastly, they'll be glewed together by means of good Juices.

191. And whilst all these Things are doing (190.) from all the Points of the Hollow of the Wound, and with an equal Strength from both Sides, and all together, the Cavity of the Wound fills from all Sides to the Centre with a liquid and solid Matter, like unto that which was lost.

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192. Hereto, therefore, (189.) is required,
1. A good and convenient Diet, that the Chyle,
the Serum of the Blood, and the nutritious Mat-
ter be soft, glewish, and not easily putrefying ;
but easy to digest, and convertible into a good
Substance. Such are chiefly Decoctions from
crude or fermented mealy Seeds ; Emulsions,
Milk, Pottages, ripe Fruit boil'd, soft and
tasteless Garden Herbs, given in such moderate
Quantities as not to over-load, and yet so often
as to prevent Hunger or Thirst.

193. The known Constitution of the Patient ;
the Consideration of the Weather, Season, or
Custom ; the Nature of the concomitant Ill-
ness, shew which of these, and which way pre-
par'd, ought to be chosen.

194. Every thing, whose Acrimony or Sharp-
ness doth increase too much the Motion of the
Liquids, is to be avoided : so that Salts, Aro-
matics, Acids, poignant Herbs and Wine, are
not allowable to wounded Patients.

195. Of the same hurtful Nature are all
such Things as are easily putrefied, or rotten : so
that too thick and strong Broths, and Herbs of
an alcaline Nature, are obnoxious, such as Ra-
dishes, the several Sorts of Cresses, Cabbages,
and the like.

196. Such Things also as are not easily con-
vertible into Chyle and Blood ; that is, those
Things that have been salted and dried either in
the Air or Smoak ; or such as have much Fat,
as Lard or Pork, and fat Fishes, Geese, Ducks,
all Kinds of Fowl that live upon Fish : lastly,
such

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such as are slimish, as most of the coarse Pease and Beans, crude mealy Vegetables, and Eggs.

197. To the same End (197.) contribute such Medicines as remove the Impediments of Consolidation (190, 191.) and are mostly given in the Form of Decoctions or Apozems. Those are to vary according to the Nature of the Obstacles which arise in the Course of the Cure; nor is there any one yet thought of, nor to be supposed; which is able to answer all Occasions, whatever some Quacks may boast of.

198. So that, according to the several Occasions, they are made up of attenuating, thickening, mitigating, quickening Medicines; of such as correct by a peculiar and specifick Quality, as open, loosen, or bind; and are consequently often of contrary Virtues.

199. The known Nature of the Patient's ill Disposition, and the Titles of these Remedies, shew which of them all are the propereft in each particular Case (197, 198.)

200. A dry, pure Air, free from nasty smells, and often chang'd, with a moderate Heat, is the best.

201. Let the Body be kept open, by using emollient, loosening, or purging Medicines.

202. Sleep ought to be procured with Anodynes, a moist soft Diet, or Opiates.

203. The Patient ought to be chearful; to abstain from all venereal Acts, and to be as quiet as possible.

204. To the End the Canals may remain in that due Condition described (190.) And that

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the Liquids may not putrefy in the Wound, whereby they would damage the Action mentioned (189, 190, 191.) The Air ought to be kept from it; the whole Wound ought to be fomented with soft, balsamick, vulnerary Medicines, and be filled up with Tents dipped in nervous Ointments, taking Care not to make them so hard as to make a great Pressure. *N. B.* "Some Surgeons among the Moderns have omitted entirely the Use of Tents, as pernicious, and chiefly *Belloste*, in his *Hospital Surgeon*, condemns them."

205. Which (204.) to retain in their proper Places, Plasters are of Use; and that hardly in any other sense than as they stick, and thereby keep the Lips of the Wound from going asunder.

206. The Liquids flowing towards the Wound, and falling into it, half-dead Fibres, obstructed Canals, and tumefied one's, create in the Wound Pus, a thin, ill-natur'd, ulcerous Juice call'd *Ichor*, nasty Matter, or spongy Flesh.

207. Which (206.) are remedied by Digestives, cleansing, corroding, or drying Medicines, and often by Compresses, and squeezing.

208. These (207.) are to be applied or administer'd until a white, soft, glewy, smooth, and even temper'd Pus appear, from under which all nasty Matter has been cleans'd; Bruises and Swellings have been consumed; those that were corrupted by the Air, separated; the Hollows fill'd, and the divided Parts healed up again.

209. Next

209. Next ought such Medicines to be applied, as have been of old, and are yet, by many, though erroneously, said to *create Flesh*; of which Kind are gentle Digestives.

210. But if, after having done all that answers the first Intention (185.) and (186, to 188.), it be found that there is no Loss of Substance, the Lips of the Wound ought to be join'd so, that the Parts which were naturally united before their Separation, may be again applied and stick to each other, and be retain'd in that Position.

211. The first of these is obtain'd, 1. By putting the Part in that Position, as it has naturally out of Action. 2. By a gentle and even Compression of the Parts towards each other; so that they may be contiguous in their whole Surface, and reman so.

212. They may be retain'd in that Union, 1. By sticking Plasters, cut in the Shape of Fingers, to stick on several Parts, without covering the whole Extent. 2. By such as are fixed upon the sound Parts at some Distance, with Loops sticking out, through which Threads are put, to draw the Lips of the Wound to each other without pressing upon them; which are mostly used in long Cuts across the Fibres of the Muscles and the Skin, or of loose Parts.

213. By applying of Bolsters or Compresses, and retaining them with the several Sorts of adapted Bandages; so that the widely-gaping Mouths of the Wounds may remain quiet in an even Degree of Pressure, and may so unite; which

which is easily obtained by a certain proper Direction of the Pressure : This obtains particularly in Wounds which are along, not across the wounded Part.

214. By Sutures with Steel Needles, which may be strait in small, but crooked in Wounds of a great Depth and Hallowness, their Steel must be sharp-pointed, and their Head ought to have an Eye through which the Thread or String is run, and its Sides should be like a small Gutter for placing of the waxed Thread, &c. They ought to be stuck in at some reasonable Distance from the Wound, and as deep, but not deeper than the Bottom of the Wound, and is to be run through the opposite Side from within outwards, having first tied the Lips of the Wound together with a Thread at several Distances, and gathering at last all the Stitches together by means of a very small Linen Bolster : This Operation must be repeated from either the Middle, or one Extremity of the Wound to t'other, as Occasion requireth. Then are the Lips to be anointed with Balsams, having put several small Linen Bolsters at each Knot : Lastly, the Wound is to be covered over with a Plaister.

215. This (214.) ought to be practis'd in a green and bloody Wound, yet free from a great Hemorrhagie ; in simple, full, clean, cross, oblique, and angular Wounds.

They (214.) ought not to be practis'd in Wounds where there is a great flowing of Blood, nor in such as are old, sanious, purulent, foul, bruis'd,

bruise'd, dangerous from the Damage of larger Vessels robb'd of their proper Substance, cover'd over with Crusts, such as are too deep, much inflamed, poisoned, or situate in such Parts as must continually move.

216. By a Needle remaining fix'd through the Lips of the Wound, and having a Thread tied round about it, so as to hinder their going asunder, but, on the contrary, joining them. Which Operation is proper in great and gaping Wounds of depending Parts, such as the Hare-lips, &c. See *Dionis's Chirurgic. Operat.*

217. The last End (40.) is obtain'd, by taking Care that each Part does answer its Opposite as exactly as it was in Health, and be so kept, that they be neither too much pressing upon each other, nor too loose; avoiding all Burning, Stypticks, or astringent Applications; and, above all, by pressing most evenly and equally upon all the Sides and Parts of the Wound. All which may be obtain'd, by doing all what has been premis'd from (41, to 72.) and afterwards applying a gently-drying Medicine, and concluding with cleansing the Cicatrix with spirituous Fomentations to solidate the Skin, &c.

Of Hemorrhagies.

218. If much Blood doth issue out of the Wound, occasion'd by its Causes (159, 160.), it is stopp'd, 1. With an hot Iron. 2. With Caustics or Corrosives. 3. Astringents. 4. Tying the Vessels with a Thread. 5. Cutting them

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them asunder. 6. With Bandages and Bolsters upon the Vessels, closing their Channels.

219. A Revulsion here (218.) is of no Use, unless the wounded Vessels (159.) be small, and the Patient be plethoric. Hereto refer all what has been said of Diet and internal Medicines, whose Help will come too late in this Case. What has been said of a Flux of Blood, will likewise hold good, whenever an ichorous Matter flows in great Abundance from any Wound; though the greatest Help to be met with in such a Case, is from the thicker balsamick Medicines.

220. When a nervous Fibre, owing its Origin to the Brain, is so much extended as to be in danger of breaking, the Notion of Pain is at hand.

221. Which is so much the sharper, as the Fibre is nearer breaking; and so much the slighter, as the Fibre is nearest to its natural Extension.

222. So that the acuteſt Pain can be but ſhort in the ſame Part; but a ſmall one may laſt long, and increase and decrease by Turns.

223. The Cause therefore of all Pain, is that which can occaſion (220.) that Extension.

224. To which refer, 1. The natural Power of contracting, being borne but by a few Fibres, whilſt the others, that ſhould have bore their Share, are ſeparated (183.) 2. All that diſtends a Vessel made up of interwoven, nervous Fibres by too much Repletion; hereto refer Obſtructions,

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structions, full Habits, abounding ill Juices, and the increased circular Motion. 3. Whatever pulls aside violently, as Disjointings, Tumours, or external Force. 4. All Wounds and Corrosives.

225. Hence one may know the many different Causes (224.) of Pain (220.) in Wounds (145.)

226. And its Effects, as Restlessness, Tossing, Waking, Fever, Heat, Dryness, Convulsions, and Gangrene, are as plain.

227. And how to give Ease, is known from looking into the Difference of the Cause.

228. The Cause of Pain, is removed, 1. By Loosening the Fibres. 2. Resolving what was coagulated. 3. Lessening the Motion and Quantity of the distending Matter. 4. Remedying that uneven and violent Pulling. 5. Softening the sharp Humours : 6. Or Discussing the same. 7. Taking out whatever doth separate or cut the Fibres.

229. The Sense of Pain, may be removed, though its Cause (224.) subsists, 1. By making the Nerve incapable of Feeling, by a Pressure, cutting, or burning of the same. 2. By blunting the very Head and Fountain of all Feeling with Opiates ; which also remove several Effects proceeding from the Sense of Pain (226.)

Of Convulsions.

230. All violent, forced or involuntary, as well as alternate, repeated Contraction of a Muscle, is call'd *a Convulsion.*

231. Whose

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231. Whose Cause is whatsoever doth push the nervous Juice alternately in the convuls'd Muscle.

232. Which therefore may exist and have its Place in Wounds, whether it be a foreign, sharp, irritating Matter, or the State of the very Nerve itself being wounded, as described in (163, 164, 175, 183, 184.) or arise from a Loss of too much Blood.

233. No less do we know its Effects, which are Disorders of all the Functions in the Body.

234. The Cure is perform'd, 1. By removing whatever doth irritate (186.) by the skilful Hand of a Surgeon (187, 188.) 2. By softening the sharp Acrimony, or dissipating it. 3. By changing the Condition of the Nerves (232.) with Means described in (228, 249.) 4. By filling the Vessels again with a soft, friendly, and liquid Aliment, given in a small Quantity, but often. 5. By stopping at the same Time the Loss of Blood (218, 219.)

235. If the Wound tumefieth and inflameth a little, it is a good Sign ; but if much, and still increasing, it is bad. In this Case do avail Bathings, Focus's, Anodynes, and Applications of nervous Medicines in the wounded Part, or to the whole Body of the Patient ; of which hereafter when we come to treat of Inflammations, and their Cure.

236. If Blood is fallen out of the Wound into any Cavity of the Body, it ought to be taken out forthwith, by placing the Body in a convenient Posture for it ; by sucking it through Pipes,

Pipes, if it be fresh, and not yet coagulated ; and by either dilating the Passage towards it, or making a new and more convenient one for that Purpose.

237. If the Wound penetrates into firm and adhering Parts of the Body, a Passage must be made to void all foul and heterogeneous Matter by Pressures, Washings, Ligatures, making a new Orifice, or dilating the old one.

238. The Wound may be dilated with a Knife, putting in Lint, a Sponge, a Piece of Gentian Root, and such-like dry Things, tied to a String, lest they fall into the Cavity ; which dilate the Wound as they imbibe the Humours, and swell with them.

Of the Wounds of the Head.

239. The Wounds of the Head either injure only the outward and common Teguments ; or also the *Periosteum*, the Skull, the *Dura Mater*, or even the *Pia Mater*, at the same time ; or the Vessels, Substance, Cortex, Marrow, and Ventricles of the Brain itself.

240. That only the outward Parts are wounded, may be known, 1. From the wounding Cause, and its Figure. 2. From the Slightness of the Blow, or Thrust, &c. 3. From the Circumstances of Solidity, but chiefly Figure of the wounded Part. 4. From the slight Symptoms. 5. By looking upon, and examining the same with, 6. A Probe.

241. Notwithstanding they (240.) seem slight, they often become dangerous, because of their being

being near some Muscles, Tendons, Sutures, the Periosteum, the Skull, Nerves, Vessels, Brain, &c. and also from the contracting Power of the wounded Part.

242. Chiefly, if there be any considerable Bruise near it.

243. Or, if under a small Orifice, the offended Part be large, and gathers foul Humours.

244. For the Gathering of extravasated Matter (242, 243.) occasions wonderful Tumours, St. Anthony's Fire, pituitous Swellings, Pains, Convulsions, Putrefactions of the Bones and Periosteum, Fevers, and Death itself.

245. If therefore nothing be hurt but the Integuments of the Skull, without any of the Symptoms mentioned from (241, to 244.) the Cure is easily performed by a fit Bandage, and Application of the Means, from (183, to 239.) Though it often carries the Face of considerable Matters, and is much magnified : but, above all, it is of great Moment, in the very Beginning of the Cure, to take great Care to unite the Lips of the Wound exactly, to undo it seldom, and with all possible Diligence then ; and to ward it from all moist, relaxant, or oleous Bodies.

246. But if the Symptoms of (241.) be present, the Cure and Medicines (183, to 239.) ought to vary according to the Difference of the Wound (241.), and of the Part.

247. Whatever is bruised here (242.) must be carefully digested by Means of such Things as either can dissipate, or help Suppuration, but such always

ways ought to be chosen, as are advantageous to the Nerves and Membranes (204, 207, 245.), or they must be cut away.

248. If there is a Gathering of Matter (241.) the Wound must be dilated with the Knife, and be cleans'd (238, 207, 208.)

249. If the Pericranium, or Hair-scalp, be so much wounded, that it discovers the Bone for a long while, or that it putrefy ; the Bone is deprived of the Vessels of the Periosteum, and consequently of its own ; the Liquor in them stagnates, and, being putrefied, separateth a Scale ; after which, the Bone grown yellow, dusky, and black, doth deposit a Leaf.

250. The Causes whereof (249.) are the Continuity of the Vessels being broke off, or the pressing of cold Air, which also dries up the Ends of the small Vessels in the Bone ; no Occasion therefore to accuse it of Malignancy.

251. The Effects are, an Increase of all the Ills in (249.)

252. The Cure is effected, 1. By piercing the Bone as deep as its Middle with a little Trepan, applied to several, but near-adjoining Places, whereby the Exfoliation is prevented, and the Periosteum is made to grow again. 2. By pressing from thence all Pus, foul Matter, and keeping out fat watry Things, and the Air ; and applying several Bolsters dipp'd in Tincturess of Mastich, made with Spirit of Wine. 3. By dressing the same seldom, and quickly.

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253. By which Method there ariseth out of all these Perforations (252.) and from all Sides, in a small Time, as it were, a new fleshy Substance, and afterwards the rest (249.) heals, as from (245, to 248.)

254. If the Skull is wounded, according to the different Causes, it may be fissur'd, fractur'd, bruis'd, depress'd, or robb'd of its Substance, either with or without Splintering; and all these may reach either one or both the Tables of the Cranium.

255. That the Case is thus (254.) may be known, 1. By knowing the Strength of the Blow. 2. The Largeness of the Wound, compared with the Figure of the Part. 3. Probing. 4. Putting Ink into the Wound, and wiping it off. 5. A Cracking, when the Patient bites upon a hard Body. 6. Seeing the Surface of the Cranium fractur'd, bruis'd, and discolour'd with pale Points. 7. The very Feeling. 8. The Symptoms of the Integuments; when the Flesh doth imposthumate about the seventh Day; when Pains invade, the Pus grows thin, and stinking, and the Wound is more than usually malignant.

256. The Effects of this (254.) are, 1. A Mortification of the separated Part of the Bone (249, to 251.) 2. An Infection of the adjacent. 3. From hence often a Putrefaction of the whole infected Bone. 4. A Rottenness of the internal Table. 5. A Corruption of the Integuments of the Skull and Brain, Convulsions, Sleepiness, a Palsy, an Apoplexy, and Death.

257. From which (254, to 256.) any Body
may

may know this Accident, and prognosticate the Event thereof.

258. The Indications toward a Cure, are,
1. The Uncovering of the wounded Part. 2. Its Cleansing. 3. The Trepanning of the Bone through. 4. The Re-engendering of its Perosteum. 5. The Healing up the Wound.

259. The Part is uncovered, 1. By cutting the Integuments through to the very Bones, and making the Incision either strait, or in the Form of an V, or perpendicular, or cross-ways, or in the Form of a T. This ought to be done cautiously when upon the fractured or loose Splinters, chusing a different Way, according to the Difference of the Place, and of the Hurt, 2. By separating the incided Teguments exactly with a Lancet. 3. By filling up the Space with Lint.

260. The Blood, Pus, bloody Matter, and Foulness, are suck'd up by small Sponges; the Fragments, Splinters, Scales of the Bone, if small, loose from every Side of the Membrane, and lying bare to the Eye; all these are removod with Pincers, or cut away with Scissars: this you may call *an artificial Cleansing*.

261. If these are too large, sticking too fast to the quick Parts, and seated too deep, they must be left there; for they'll either separate themselves, or grow again to the quick and whole Parts: this is *the natural Cleansing*.

262. If the Bone appears bruised, white, tawny, livid, or fissur'd, it must be bored through, making several little Holes here and there, as

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said in (252.) ; for through these the live Parts issue forth, very soon driving the dead ones before them.

263. From which (262.) follows a speedy Growth of a new Periosteum (252.)

264. How to cure what remains in this Case, has been described from (245, to 248, and 253.)

265. From hence it is manifest, why a small Fissure of the Skull is often more dangerous than a large Bruise (256.)

266. And it appears also, that this Method (252, 262.) is preferable to the Burnings, Launtings, and Trepannings of the Antients, in all these Cases mentioned in (249, 254, 256, 262.)

267. When the Skull is depress'd in Children, or in grown People after a Fracture, the Brain is squeez'd ; and according to the different Places of it thus press'd, the different Bigness, Depth, Sharpness, and Pricking of the pressing Body ; a Dimness, Drowsiness, Vertigo, Tinkling, Cloudiness, Delirium, vomiting of Choler, Head-ach, Convulsions, Palsy, involuntary Stools and Urine, Apoplexies, Fevers, and Death ensue.

268. And also, when the Brain itself is thus offended, and thence corrupted by an Inflammation, Suppuration, Gangrene, Fungus, or great Loss of Blood ; the same Ills (267.) as just now mentioned, are the necessary Consequences.

269. That the Case is such (267.) you may know by feeling, seeing, and removing the Integuments (259.)

270. The Removal of the Pricking, the Restitution of the pressing Body in its natural State, the keeping it in that State absolves the Cure.

271. Therefore the soft and first uncover'd Skull (259.) of the Children is lifted up by means of a sticking Plaster ; and in grown People, if too solid for that Purpose, it is raised with an Elevator : If the Bone gives Way, and is unfit for Trepanning, the Skull must be perforated next to the Fracture, so that the loose and depressed Bone may be lifted up with a proper Instrument. During the Operation it will help the Patient to sneeze, and hold his Breath.

272. It will keep in this Situation, by avoiding all pressing from without, by Means of a convenient Bandage.

273. If in a Fissure, Fracture, or Contusion of the Skull, any broken Arteries, Veins, or lymphatick Vessels, have let out their Humours ; these, by pressing the Brain, will produce the Disorders of (267.) ; then putrefying into Pus, or watry Blood, they affect the tender adjacent Parts of the Brain, whence again the same Effects. These Vessels, by running from the Skull into the *Dura*, and from that into the *Pia Mater*, thence into the Substance, Sinus's, and Ventricles of the Brain, occasion, during the Cure, many and sundry ill Symptoms, more or less dangerous, according to the Importance and Constitution of these Parts.

274. A violent Convulsion of the Head will produce the same Symptoms (273.), by break-

ing Vessels in the Brain, or by pressing them; although the Skull be left entire very often.

275. These Disasters (273, 274.) are known from their Cause, its Force, the Place receiving its Impression; from vomiting Choler, the lessening of Sight, Hearing, Smelling, Tasting, and Feeling, the same being depraved, or entirely gone; from a Vertigo, Dimness, Fall, Sleepiness, Snoaring; Palsy, Convulsions, Delirium, Lethargy, Apoplexy, Standing of the Hair; Increase of Fever, Blood coming and gushing through the Mouth, Nostrils, and Ears; and a Redness of the Face and Eyes.

276. What Place within the Skull is hurt, may be known, 1. From the outward Appearances (249, 254, to 256, 262, 267, 269.) if there be any. 2. Having found out the affected Part of the Skull, by the Method in (255.) 3. From the Swelling and Redness of the Skin, made bare upon the Application of Plasters. 4. From the spontaneous Motion of the Patient's Hand towards the affected Place, whilst he is speechless. 5. From the Symptoms, when one Side is paralytic, and t'other convuls'd.

277. Then, 1. ought the extravasated Blood to be taken out immediately. 2. The infected Parts to be cleansed. 3. The small Bones, which may stick into the Brain, to be pull'd out.

278. The extravasated Blood may be taken away, 1. By sucking it back. 2. Dissipating. 3. Trepanning of the Cranium.

279. It is suck'd back again, if by a large Bleeding in the Arm, and its Lieutenant a Purge, it is drove back again into the empty'd Veins by the Help of vital Power.

280. So that both these Evacuations (279.) are immediately to be made, and that to the utmost of the Patient's Strength ; and if useful, they are, as Occasion serves, to be repeated, and again, if you find the Symptoms (273, 274.) to grow milder and fewer.

281. The attenuated Blood is entirely diffused, 1. By sucking back Part of what is to be dissipated (279, 280.) 2. Attenuating by watry Diluters, and drinking resolvent Medicines hot. 3. Applying to the shaved Part Plasters, Cataplasms, Fomentations made of nervous and cephalick Discutients. 4. Applying the same to the Ears and Nostrils.

282. By which Means, if the Symptoms (279, 280, 281.) do not immediately cease or abate considerably, but, on the contrary, either continue as bad, or grow (273, 274.) worse ; the Operation of the Trepan must instantly be perform'd, to make an Opening to let out the Humours (273, 277. No 1.) and to have Room for cleansing (277. No 2.) and pulling out the Fragments (277. No 3.)

283. The Place where the Trepan is to be applied, is known from the Discovery of the offended Place (276.) where it is much fitter to do it, if no Circumstances forbid it.

284. Forbidding Circumstances, are, 1. Sutures. 2. Many Muscles. 3. Cavities of the

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Os frontis. 4. A large Artery inserted into the Bone. 5. The depending Situation of the Place. 6. A wagging of the fractur'd, bruis'd, or rotten Bone. 7. The Unevenness of the Skull first rais'd, and then sunk and hollow.

285. The next best Place for Trepanning, is the nearest (276.) to the known offended Place.

286. And if urgent Symptoins command, as (273, 275.), even though no certain Place could be assign'd (276.), yet the Trepan must be applied first on one, and then on t'other Side of the Skull, to the End mention'd in (277.)

287. The Place being well mark'd out (276, 283, 284, 285, 286.), and the Hair shav'd off, the Teguments (259.) must be cut away and parted from the Skull, the Lips of 'em must be rais'd up, the Bone dry'd, cover'd over with Lint, the Blood stopp'd (218.) by which the Pain is eas'd (227, 228, 229.) the Inflammation prevented (235.) ; and if there be no urgent Occasions, after the Bandage is aptly laid on, the Dressing is left on 'till next Day.

288. Then having secured the Head from moving, stopp'd up the Ears, and warm'd the Air of the Room ; the Trepan is applied to the cleansed Bone, together with its Pyramid to fix it, and it is moved with an even and equal turning, with the Top resting upon the Fore-head of the Surgeon, 'till he hath enter'd it about half a Line deep.

289. Then taking out the Pyramid, he doth continue to saw equally, carefully cleaning, from time to time, both the Teeth of the Trepan,
and

and the Circle made in the Bone, 'till the Blood breaking out, the Softness of the Bone, the Change of the Sound in Sawing, tells you that you are arrived to the Division of the two Tables; which sometimes is not discernable, and therefore look'd for in vain.

290. Then, having wash'd away the Blood, or made it run together with hot rectified Spirit of Wine, and taken out the Saw-dust carefully, turn the Trepan, with the utmost Care, slowly, patiently, one or two Turns round; and at every Motion taking out the Saw-dust, look constantly whether the Colour changes in the ras'd Circle, and whether you have penetrated equally on all Sides; then leaning a little more on the least penetrated Side, according to the different Colour shewing itself, loosen the Bone equally and evenly, so that it may cohere but a little.

291. When the Colour turns blueish, and appears the same all round the Circle, and the shaking of the Piece tells you that the Skull is most entirely perforated, take out the Piece with the Leaves, the Myrtle-leaf, or a Spoon.

292. Then smooth the Circumference of the perforated Bone with the Lenticular, take out the Saw-dust, make way and facilitate the Exit of the Blood and foul Humours, which will flow out on its Surface, by stopping the Nose and Mouth of the Patient, causing him to sneeze, and to hold his Breath; and by repelling with the utmost Caution, and not too often, the *Dura Mater* against the Brain with the Lenticular; and

and then fill the Hole, and cover it over with a thin and soft Linen, soak'd in Medicines of the nervous Kind, and applying over all this a leaden Plate resting on the Surface of the Cranium, with its Ears.

293. And afterwards the same Things are applied as were set down in the Wounds of Membranes, from (185, to 239.)

294. And thus do the Margins of the whole in the Bone exfoliate within 40 or 50 Days, sooner or later, according to the Age of the Patient, and the Size of the Fracture; Flesh daily grows and fills the Hole, which, by degrees, grows harder, and at last acquires the Solidity and the Shape of a Callosity in Bones, either hollow or over-topping; in which there generally remains some Weakness and Pain.

295. The Inflammation, Imposthumation, Gangrene, or the excrescent Fungus of the Membrane, or of the Brain itself, are remedied by the same Means as have been said to be proper in these Cases, and by the Application of Antiphlogistics, Detergents, such as prevent Putrefactions, by tying or cutting the last, and applying over them the leaden Plates to keep that Proud-flesh under (292.) Moreover, the Wounds of the Head are deemed malignant, 1. From their Place, which, when in the Hind-part of the Head, or the Top, or the Fore-part of the Head in Children, or on the Sutures, are the worst. 2. From their Symptoms, such as a Fever, with Cold after the seventh Day, and with a Shaking; if the Wound looks pale, dry, livid, the Bone

Bone rough, yellow ; if a Palsy of one Side ensueth, or Convulsions. 3. From the Patient's Age. 4. His Constitution. 5. The Season of the Year. 6. The Malignity of an unwholsome, stinking Air.

296. If there appears under the Dura Mater, after the boaring through of the Cranium, any Blood, Pus, or Foulness, the Surgeon must boldly cut through it, to let those out.

The Wounds of the Thorax.

297. The Wounds made in the Chest, but not penetrating into its Cavity, are known to be such by Inspection, the Probe, the Air no ways flying out, the returning of warm Water when injected into it, the Situation of the Body in the same Posture as when the Wound was received, by certain and sure Signs that the Lungs do adhere to that Part of the Chest where the wounding Instrument has pierced.

298. If these Wounds (297.) descend obliquely above or within the Ribs, it often happens, that the Pleura being eat through, they'll let down Pus into the Cavity of the Thorax, and chiefly, if by any means its Passage outwardly is hinder'd ; thence an Empyema, which produceth many Ills.

299. A Surgeon therefore, in the Cure of such a Wound, ought to abstain from Tents or Pledgets, drawing Applications, or such as make too strong a Pressure ; but, on the contrary, ought to dress the Wounds with cleansing, balsamick Medicines, Bolsters, and a gentle Bandage, and recommend-

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commending an apt Position of the Body to the
Patient.

300. We know that the Wound doth penetrate into the Cavity of the Chest, 1. By comparing the Instrument with the Largeness of the Wound. 2. By probing into the Wound, after having placed the Patient in the same Position as when he received the Wound. 3. By bidding the Patient to draw his Breath strong whilst the Wound is kept close; and then shutting his Nose and Mouth, to force the Air out, as in breathing out and opening the Orifice of the Wound, out of which it will then issue forth, often with making a Sound, from its being agitated in the Hollow of the Chest. 4. By Injection. 5. By discovering an *Emphysema*; that is, an Inflation like that of Beasts which are blown up after they are kill'd. 6. By the coming out of Blood made frothy by the Air, mixed with it, and making a Noise at its coming out of the Wound.

301. The Effect of such a Wound, is often,
1. A pressing of the Air got into the Chest upon the Lungs, whence they become unfit both for breathing or circulating of the Blood. 2. An Effusion and Accumulation of Blood into the Thorax. 3. Its Putrefaction, when extravasated, heated, stirr'd about, and shut up on all Sides. 4. Hence a Wasting, Corrosion, Corruption, and Stench of the Pleura, Lungs, Midriff, Diaphragm, and Pericardium. 5. Numberless Diseases thence arising. 6. Spitting of Blood.

302. The

302. The Signs of Blood being shed hereinto, are, 1. Straight-breathing. 2. The Patient's lying down easier upon his Back, uneasy on the wounded Side, and impossible on the whole Side. 3. The Consequences described in (301.) 4. A Weight upon the Diaphragm. 5. A floating of the Matter. 6. The Nature and Seat of the Wound. 7. A great Weakness, with a pale Aspect, and cold Sweats. 8. A continual Increase of almost all the Symptoms.

303. The same ought forthwith to be drawn out, 1. By putting the Patient in such a Posture, obliging him to make such Motions as, together with some straining of the Body, will expel the Blood. 2. Sucking through a bending Pipe, open at the Sides, but obtuse at the End. 3. Injecting a diluting, resolving, and cleansing Liquor. 4. Dilating the Wound. 5. Making another Opening between the third and second Rib from below, at the Distance of about four Fingers Breadth from the Vertebres, and from the lower Corner of the Shoulder-blade, with a cutting Instrument, in a parallel Line with the Ribs, about the middle Distance from them, holding the Edge downwards.

304. If these Wounds are not distended with Tents, are seldom opened, the Air kept from them, and that, which was got in, be expell'd by Means of sucking and breathing out to the utmost at the same time, and Care be taken not to let any Cold come near them, they are soon and very well cured, unless they be incurable in their Nature.

305. And

305. And then may all those terrible Symptoms (301.) easily be prevented.

The Wounds of the Abdomen.

306. The Wounds of the *Abdomen* are known not to penetrate into the Cavity of it,
 1. By probing, and enquiring what Posture the Patient was in when the Wound was given.
 2. Injection. 3. Knowing the wounding Instrument, and the Nature of the Wound.

307. If they have penetrated almost as deep as the Peritoneum, and the Teguments being thereby much weaken'd, they may be the Cause of Ruptures in robust People.

308. Therefore Care must be taken of these by proper Sutures and Bandages; and afterwards the common Cure to all Wounds will be sufficient.

309. But that they penetrate into the Cavity, will appear, 1. By probing, and knowing the Posture. 2. Injection 3. Knowing the Instrument, and the Nature of the Wound. 4. Examining the Nature of Things coming out of the Wound.

310. If then all the Symptoms are slight, there be no Fever, Pain, nor Inflammation, no Blood comes out of the Wound when the Patient lieth down upon it, the injected Liquor comes out again not altered, we conclude that none of the Entrails are hurt.

311. The Air must immediately be kept out; that which got in, must be forced out by sucking, and breathing out strong; the Integuments must

must be sewed together again by the Operation of the Suture of the Belly ; the Tents must be removed ; and the Cure will be quite perform'd, by anointing the Lips of the Wound with Balsams, by lying upon the Wound, and very quiet ; by a soft, moist, and spare Diet, and dressing seldom.

312. If the Pain is acute, and there be Signs of a Fever and Inflammation ; if Blood, watry Blood, Eatables, Drinkables, Chyle, Choler, Pus, Urine, Ordure, Stench, do issue out of the Wound ; if the wounding Instrument, the Posture of the Patient in receiving the Wound, and its Nature, Paleness, a cold Sweat, Restlessness, fainting Fits, and a deficient Pulse, are known and observed, the Surgeon knows certainly that some Bowels of the lower Belly, and which of 'em, are wounded.

313. Then follow innumerable Ills, partly, 1. From the Nature of the Bowels, consisting mostly of tender and many Vessels, but a few Muscles, wherein the Humours and Liquids circulate with much Difficulty, and not but when the Abdomen is close and whole. 2. From the interrupted Function of the Bowel. 3. The Quantity of spill'd Blood, and its Corruption. 4. The Action of the Air enter'd at the Wound, which is much rarefy'd, and consequently presseth much upon all the contain'd Parts.

314. Whence they often prove mortal. But if the Wounds of the Guts are large, and at hand, they must be sewed ; if small, they are to be left to heal of themselves, and the rest must be practis'd as in (311.)

315. If

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315. If the Gut, unwounded and unhurt, gusheth out at a large Wound in the Belly, let the same be fomented with live Animals cut through the Middle, or some other nervous Fomentation ; then let it be put in again, and the rest perform'd as in (311.)

316. If the same coming through a small Wound, swell'd up with Wind, an Inflammation, or Excrements, cannot be reduced ; let it be done with the Help of a Fomentation, prick-ing the same to let out the Wind, or by dilating the Wound.

317. If Part of the Pipe of the Gut is carried off by a Wound, an Imposthume, or a Gangrene ; the Surgeon must sew the upper Part at hand, or which is skilfully brought thither to the Hole which the Wound has made.

318. If the Caul has got out, and is yet moist, warm, and red with scarlet Blood, it must be put in again, as in (316.)

319. If the same be dry, cold, livid ; whatever is so, must be either cut off, or tied off with a String ; and the rest being cured by good Fomen-tations, must be reduced again in its Place.

320. Large Bleeding, Glysters in the Beginning, if the thick Guts be unhurt ; a good Diet, and gentle Breathing Rest, and Lying down, are the chief Remedies in these Cases.

Of Contusions.

321. When a blunt Body hath broke at once several Vessels by its Motion, Resistance, or Pres-sure, that Hurt is call'd *a Contusion.*

322. Which

322. Which raiseth the Idea of an Accumulation of small Wounds, with a rubbing or wearing away the Solids and small Vessels.

323. The Effects therefore are, a tearing Solution of united Parts; a bruising Destruction of many; an Effusion of their Liquids into the neighbouring empty Places, whether naturally there, or occasion'd by this very Accident; and innumerable more Ills, which may proceed from these.

324. But the worst of these (323) is, when the external Coats or Integuments being whole, the internal Parts (321, 322, 323.) are thus bruised, that the Liquids are stagnated, gathered, putrefied; whence an Ecchymosis, a spurious Aneurisma, a Blueneſs in the Skin, an Ulcer, Gangrene, Rottenness in the Bones, and in the Glands a ſchirrous Tumour, and a Cancer.

325. It often hurts the Bones, and then follow all the Symptoms described from (249, to 257.), and an Offence of the Marrow; whence Ulcers, Fistules, Caries, Putrefactions; for the Marrow will be affected in the Bones, as we have seen the Brain to be in Wounds, or Bruises of the Skull (273, and 274.)

326. And also sometimes the Muscles; whence large Imposthumations, Gangrenes, Palfies, and Stiffness of the Parts. But if any large Nerves, that send out many Branches, are greatly injured by the Contusion, there will follow a Palsy, Wasting, want of Sense, and an unavoidable and incurable Gangrene of the Parts, below the Bruise; and, above all, if the Back-bone,

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and the spinal Marrow contain'd in it, happen to be the Parts affected.

327. It often spoils the very Entrails, so as to occasion therein Inflammations, Suppurations, Gangrenes, schirrous Tumours, and Hardnesses, and to deprave their Functions.

328. So that from (322, to 327.) duly considered, it is easy to explain so many wonderful and dreadful Diseases which usually follow Contusions (321.) ; and innumerable acute, as well as chronical Diseases, may be thence foretold.

329. It is known to be present, and what Part it affects, 1. By Inspection, and Feeling. 2. By the Effects of Pain, Numbness, Heaviness, and the Change of the Colour from natural to red, tawny, leaden, black, yellow, or green ; by the Loss of Blood, or succeeding Gangrenes (323, to 327.) 3. By comparing the wounding Instrument, and its Figure, with the Shape of the wounded Part.

330. And it is well known, 1. That an inward and large Bruise of the noble Entrails is altogether incurable, and must needs occasion several Diseases, and Death. 2. That a Bruise of the Bones is very dangerous, very difficult to cure, chiefly about the Joints, and the Marrow. 3. That the Contusion of the Cranium is the worst of all, as has been seen, because of the Nearness of the Brain. 4. Those of the larger Glands, near or behind the Ears, under the Arm-pits, in the Breast, the Pancreas, Groins, and Womb, doth reaten schirrous Tumours, and Cancers, and all the Disasters that follow them.

331. In curing Contusions, Endeavours ought chiefly to be used to resolve them, to prevent Imposthumations, but, above all, a Gangrene.

332. A Resolution is obtain'd, by removing all extravasated Humours, without any farther Breach of the Vessels.

333. And this is perform'd, 1. By rendering those extravasated Liquids fluid again. 2. By loosening the neighbouring Vessels. 3. By forcing those Fluids back again into the Vessels, which is performed by emptying or rubbing them.

334. So that letting Blood largely; giving instantly a strong Purge, but of the cooling kind; applying to the Part a penetrating, loosening, and resolving Fomentation; hot rubbing, upon the Part; which, together with internal resolving, sweating, and diuretic Medicines, are of great Use.

335. The Method whereof, the Necessity of repeating, and Doses, are known from (334.), and the Danger of the Case.

336. A thin Diet of Things that do not putrefy easily, is also requisite.

337. But if the same will not admit of a Resolution because of its Largeness, and is comeatable by the Surgeon, a Scarification, Opening, and Imposthumation ought to take Place, doing at the same time all what was said in (334.) But if the Mischief is so great that the Part be already mortified, or else be in such a Condition that it may certainly be foreseen that intolerable Pains, Inflammations, Imposthumations, Wastings, Fevers, and Death will ensue, it

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must without Delay be extirpated, if practicable, according to the Rules to be laid down in (454, to 475.)

338. Yet more may be done by the Method laid down from (331, to 335.) than is almost credible; Nature being always disposed to lend a helping Hand in separating, attenuating, resolving, dispersing, and expelling its Foes.

Of Fractured Bones.

339. If the Parts of a Bone are violently parted and divided into large Fragments, it is call'd *a Fracture*.

340. Which, if alone, is call'd *a simple one*; but if accompanied with a Wound, a Bruise, an Inflammation, an Ulcer, or several Fractures, the same is call'd *a compound Fracture*.

341. It's also call'd a transverse, oblique, or oblong Fracture, from its different Place; and according to the Fragments resting upon each other, or lying next to one another, or raised with some Splinter sticking out, they differ in their Names, Nature, and Method of Cure.

342. The Effects are different according to the different Nature of the fractured Bone, the Variety of the Fracture itself, the Variety of Fragments as to their Situation, Figure, Number, and Largeness; and, lastly, the Variety of the Place wherein, or of the adjacent Parts about which the Fracture has happened.

343. The chief Effects consequently are, The Destruction of their Office, of upholding, bearing, and directing the Muscles: The

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Contraction of the Muscle, and throwing them out of their natural Place ; the shortening, writhing, and deforming of the Limb ; the tearing, bruising, and corrupting of the external Periosteum, the small Vessels filling up the Cells, the internal Periosteum, the Membrana Medullofa, and the Medulla itself : An over-growing of the Vessels of the Bones, whence the Callus grows unequally, and with a Tumour, deforming the Limb ; a Distraction, Laceration, Irritation, Compression, and even Convulsion of the Membranes, Tendons, and Nerves ; an Alteration of the adjoining Vessels, their Destruction, Obstruction, Inflammation, Pain, Ecchymosis, Wasting, Suppuration, Gangrene, Death of that Part, and often of the Whole : As for a Confusion, that seldom, if ever fails.

344. Which (342, 343.) being duly weigh'd, inform the Surgeon of the Presence and the Condition of a compound Fracture ; and the Diagnostic will still be plainer, if he feels the Fragments ; hears their cracking against each other ; seeth how the Limb of the Bone suffers in its Shape and Motion ; and understands at the same time what the Instrument was with which, or against which the Bone was fractured, the Manner and Strength of the Blow, together with the concurring Coldness of the Winter, which is said to make the Bones more brittle than they be naturally.

345. But an oblong Fracture is not easily, nor, 'till after some time, discovered ; the Pain, Swelling, Increasing, Bigness of the Part, its Unevenness,

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evenness, stinking Matter, breaking through the Muscles ; all this, compared with the Strength of the Blow, will give great Light.

346. That the Cure will be easy, difficult, slow, quick, entire, or only partly performed, may be foretold from the Figure, Simplicity, Composition, and Time of the Fracture ; from the Number, Figure, and Largeness of the Fragments ; from the Place of the wounded Bone, the Nature of the adjacent wounded Parts, the Season of the Year, the Age and Constitution of the Patient.

347. The Cure requireth,

1. A Restitution to the natural Situation, by extending or setting it again in its proper Place.
2. A Retention in that Situation, by Bandages and Machines.
3. An Union and Consolidation by a Callus.

348. If the fractured Bones have remained in their proper Situation, the first Requisite or Indication ceaseth.

If they have gone aside but a little, a very small Extension will do.

But if they be so far pull'd out of their Place, as to be entirely parallel to each other's Sides, then there is occasion for a very large Extension ; so that all intercepted Bodies may be removed, that they may be restored to a requisite Length, and fit each other as before.

349. The Extension is performed, 1. By apprehending the Bone near the Fracture with the

the Hand, or with Cords in the Form of Snares. 2. Placing and keeping the Patient in a steady Posture. 3. Disposing the Part in the natural Situation. 4. A slow, straight pulling, such a Strength of the fractured Parts, and to such a Distance as the Strength and the Power of the contracted Muscles do require. 5. The Power and Application of mechanical Instruments, if the Hands want Strength to perform this.

350. Which (348, 349.) (as they hardly ever can be done without Violence and Pain, when the Parts are already inflamed) ought often to be deferr'd 'till the Inflammation be allay'd; otherwise the Patient will die convulsive, or of a Gangrene.

351. If the Fragments are free and loose, they must be taken out, if it can be done easily. If the sticking-out Splinters forbid their being taken out, and if bare to the Sight, they must be cut out; if covered over, an Incision must be made to cut them out. If the Fracture be very much complicated and compounded, particularly if it be attended with a very great Contusion, several Bones fractured, and some of the large Vessels entirely destroyed, if nothing contraindicates, it is to be extirpated immediately.

352. The Restitution is performed, by turning the Part after a due Extension (349.) and Preparation (351.) so cautiously, slowly, and softly, that at last one Extremity of the Bone may meet t'other in its just Place, the withdrawn Muscles be restored to their former

Seat, and nothing be intercepted between the Bones.

353. This is known from Anatomy, the comparing of the wounded Part with the like sound Part, the Removal of Pain, and Return of the Part to its Length, and natural Figure.

354. The Retention in its Seat is secured by Swadlings, Bolsters, Splents, procuring Rest to the Channels, and hindering or directing the Action and Motion of the Muscles.

355. Bandages laid on too tightly, occasion Tumours, Suffocations, and Gangrenes; whence innumerable Ills: so that they must be wound up so softly, that they may render the Part steady, and secure the Vessels in their proper Places, but very gently.

356. If there be Wounds, they must be cured according to the Rules of Art laid down from (185, to 239.) laying the Bandages on at Distances. The same ought to be understood of Inflammations, Pains, Tumours, and other Symptoms.

357. Then doth it grow together, and the Callus also, sooner or later, according to the Age, Thickness of the Bone, Weight of whatever it is bound to bear, Difference of Season and Weather, in the Space of between twenty and seventy Days.

Of Luxations.

358. A Luxation, is the Removal of the Extremity or Head of any moveable Bone out of the Hollow in which it was wont to move, and its losing thereby its moving Power.

359. Which

359. Which is either entire, or only in part ; whence the first is call'd a *Disjoining* ; and the last only a *Wrench*.

360. The worst is that which happens to *Epiphyses* being loosened from the Bones, to which they ought to stick closely. " Of which " *Epiphyses* see an exact History in the second " Lecture of Dionys upon the *Osteology*. "

361. The *Cause* of these Luxations or Wrenchings may be external, from any Power capable of extending, writhing, or expelling.

362. Or may be *internal*, from a foreign Matter grown and gathered in the Cavity of the Articulation, which thrusts the Bone out of its natural Place.

363. These Causes (361, 362.) will be more powerful, if the Ligaments be extended, relaxed, or broken, whether this happen from an internal or an external Cause.

364. Hence a Change in the Figure of the Part, a Tumour, Cavity, Lengthening ; the Limb will grow shorter, incapable of Motion ; the Muscles will be drawn aside, the subjacent Part benumb'd and paralytick, the adjacent Vessels compress'd : from all which must follow Pains, continual waking, Inflammations, pituitous Swellings, Contractions, Convulsions, Wastings, and Death of the Part, and even of the whole Animal.

365. From the Knowledge and Observation of which Phænomena, the Signs of a present Luxation are apparent.

366. And

366. And having weighed the Bigness, Figure, Situation of the Part, which is thus pressed and intercepted ; the Duration, Concretion of the disjointed Parts ; their Pain, Inflammation, Convulsion, and other Symptoms ; what Parts, whether smaller or thicker, do surround them ; what Ligaments are destroyed, or only lengthened ; what Muscles are annexed : And from such-like the Surgeon may prognosticate whether the Cure is like to be entire, or defective ; quick, or slow ; easy, or difficult.

367. To which is required, 1. The Re-settling or Reducing of the disjointed Parts. 2. And their Retention in their natural Seat 'till the Cure is perfected.

368. The Reduction is obtain'd, 1. By placing and keeping the Patient in a steady Posture. 2. Moving the Part, so as to make it answer its Cavity exactly. 3. Placing it therein, by turning, thrusting, or even beating it in.

369. The Retention is secured, by keeping the Parts steady with Bandages, and ordering the Patient to lie very quiet, with the Parts in their most natural Position.

Of Inflammations.

370. Inflammations and Phlegmons having the same Causes, and the like Effects, take their Name from *Fire* ; and likewise St. *Anthony's Fire*, &c.

371. And it is an Attrition of the red arterial Blood stagnating in the smallest Vessels, occasion'd

occasion'd by the Motion of the Blood circulating with the greater Force in the larger Vessels.

372. Which therefore may take Place either in the Extremities of the smallest Arteries, or in the arterial lymphatic Vessels, they being incapable of transmitting the red Globules receiv'd by their dilated Orifices through their Extremities.

373. So that its Seat is in every Part of the Body where there is a Tissue, that is, abundance of Arteries dispersed in the Manner of a Net, and where-ever the lymphatic Arteries have their Beginning.

374. So that all Arteries, Veins, Nerves, Membranes, Muscles, Glands, Bones, Cartilages, Tendons, Bowels, and almost all the Body, are subject to the same ; but no Part so frequently as the fat Parts, " wherein also they are more difficultly cured, because of the extreme Smallness of its Vessels," &c.

375. This Stagnation (371.) is occasion'd in the smallest Arteries, 1. By whatever makes the Ends of the Vessels in their Cones and Cylinders so narrow, that the Diameter of their Orifice be made less than the Diameter of the Globule of the Blood, whether it be by pressing upon the Outside of the Vessels, or distracting, turning, breaking, bruising, burning, gnawing, or curling the same. Whereof the Causes may be Heat, a violent Motion, foreign Bodies stuck in, Ligatures, Weights, the Taking or Application of sharp Bodies, sharp Cold, too great Rubbing ; all the Causes of Wounds, Bruises, Corrosions,

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Rosions, Fractures, Luxations, and Obstructions.

376. The same is, 2dly, produced by every thing that shuts up the Passages, and at the same time applieth to them, either inwardly or outwardly, such acrimonious Bodies as are both oily and saline.

377. Thirdly, By all such Things as occasion the Blood to settle and coagulate in the Body; as, too violent Motions, a draining of the thinnest Parts by Sweating, Urine, Spitting, looseness, serous Eruptions, and all such as curdle, whether Medicines or Poisons.

378. In the lymphatic arterial Vessels the same is occasioned, 1. By all the Causes which stretch their Mouths so wide as to give Entrance to the coarse Parts of the Blood, which being drove in deeper, meet with narrow Passages that give way; where then happen all what is said in (377.), the same will follow from the too easy giving way of the Vessel at its Beginning, and the too strong Motion of the arterious Liquid. 2. By all the Causes of Inflammations in the Blood-vessels (375, 376.)

379. So that the same Disease may take Place in every conic Vessel, wherein the Liquor doth flow, from the wide to the narrow End; for as the red Part is in the Blood, so, probably, there is in the Lympha some Part thicker than the rest.

380. Whence may truly be discern'd wherein Phlegmons, St. Anthony's Fire, watry and schirrous Tumours differ from Inflammations.

381. But

381. But as often as these Causes from (375, to 379.) have occasioned that Stagnation described in (371, 372, 379.), and in the Vessels mentioned in (372, to 374, 378, 379.) ; then doth the Power of the Blood, push'd on by the remaining vital Strength, occasion some Effects, which are at the same time Signs of a present Inflammation.

382. 1. The small Arteries, hardly visible, being obstructed, are now enlarged by the distending Blood ; whence a red Tumour. 2. The lymphatic arterial Vessels, pellucid before, and invisible, undergo the same Fate ; whence an Increase of the Tumour. 3. The distended small Vessels are near breaking in the smallest Fibres ; whence a pricking pungent Pain. 4. The Liquids and Solids are much pressed upon each other ; whence a Hardness, and a thrusting Effort of the Part. 5. A shining Redness ensues from the too great Accumulation and too forcible Impulse of the Blood. 6. From the Resistance, Beating, and Pressure, ariseth a strong Rubbing of the several Parts of the Liquids amongst themselves, against the Solids, and of the Solids against them ; whence Heat and Æstuation. 7. And because the Shock of the Blood push'd forth from the Heart, and received into the Extremities of the Vessels, doth dilate their Sides, there follows a Throbbing. 8. From the Fibres being irritated, and the Blood being push'd quicker through the Vessels that are not obstructed, as it returns, freely enough through the Veins, (they still growing wider and wider)

but

but in its Passage through the Arteries is often interrupted, *the Pulse beats quicker*; whence a Fever, Drought, Heat, Watchings, Weakness, and Uneasiness.

383. This (382.) is the History of Inflammations, in their Beginnings or Infancy.

384. If then Blood be let out of a Vein with a full Stream, out of a large Orifice into a Basin or Porringer, as soon as it cools it forms on its Surface a white, tough, thick, stiff Skin, not unlike to Hog's-Lard.

385. If the Disease increaseth, you'll see the same Symptoms as from (382, to 384.), but of a worse Nature; the Lympha, being squeez'd out, is separated, and the red Part of the Blood grows still closer and thicker.

386. If the flowing Humour be soft, its Motion be sedater, the Obstruction be small, and its Seat chiefly in the Arteries or the Beginning of the Lymphatics, the Canals be yet moveable, a diluting Vehicle be given with such Medicines as are able to reduce the coagulated Humours to their Fluidity, and make them move that were stagnated; in this Case, the Inflammation may be cured by *resolving it*.

387. If the flowing Humour be soft, but the Motion quick, the Obstruction great, nor capable of being resolved (386.), the Symptoms increased (382, 384, 385.), the distended Vessels (broken with Pain, Heat, beating, and swelling) let out their Liquids, break and corrupt the same in a small Degree; they wear away and dissolve the tender Solids, mix their Substance with

the

the Fluids into one homogeneous, white, thickish, glewish, and fat Humour call'd *Pus*; and this is what is call'd *Suppuration*, or an *Impustulation*, and is another Method, by which an Inflammation may be cured and terminated.

388. If the Humour be sharp, in a great Motion, the Obstruction great, the Vessels stiff, all the Symptoms of (382, 386, 387.) be violent, then do the small Vessels break suddenly, the Liquids putrefy; the watry Blood, creeping under the Skin, gathers into small Bladders looking reddish, like the Washings of raw Flesh, or like yellow Matter; which, by degrees, turns into an ash, pale, tawny, and black Colour; the Redness of the Part; the Pain, Heat and Pulse, and Swelling leaving the same, remove to the adjacent, and the Part affected dieth: This is call'd *a Gangrene*, and is a third End into which terminate Inflammations.

389. If to a Part thus affected (388.) is added an external Pressure, or a very great Heat doth dissipate the Liquids; the dead Part hardens like dried Leather, suffocates all that lieth under it, and corrupts the same.

390. The Application of Things actually or potentially cold; of Astringents, coagulating, repelling, fat and sharp Medicines that shut up the Pores, and stupefy the Parts; strong Ligatures, and outward Pressure, quickly occasion this Change of an Inflammation into a Gangrene (388.)

391. And soon pass into a *Mortification*.

392. If

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392. If the inflamed Part be glandular, the internal or external Heat be great, the impacted Matter sluggish and thick, the Emunctories of the Glands obstructed, the Folliculi and the Sides of them distended, there grows a hard Tumour in the Gland free from Pain; it's call'd *Schirrus* which is a fourth End of an Inflammation.

393. The Cause, the affected Part, the Greatness, Depth, Quicknes, and Symptoms of the Inflammation, and the Constitution of the Patient, compared with the Signs and Effects thereof, do make the Prognostick easy.

394. It is also evident, that a different Method of Cure is necessary, according to the different State and Conditions of this Disease.

395. For if any of the Causes from (375, to 379.) has in any Part (372, 373, 374, 379.) produced an Inflammation, as in (371.), with the Symptoms of (382, to 384.), and the Circumstances be, as in (386.), the following Indications are necessary :

1. To hinder any farther Harm to the Vessels.
 2. To remove that which they have already received.
 3. To procure Fluidity and Softness to the obstructing Matter, and preserve them in that State.
 4. Or if that cannot be obtained, to drive the same back into the larger Vessels.
396. A farther Harm is prevented,

i. By

1. By removing and correcting the known Causes mention'd from (375, to 379.)
2. By lessening the Power and Influx of the arterious Liquor by Bleeding and Purging.
3. By lessening, with the same Remedies, the Quantity of the Liquids.
4. By making a Revulsion of the Blood, causing the same to flow more strongly towards other Parts, by Suction, Friction, Plasters and Blisters, Fomentations, Bathings, Issues, Seatons, and strong Purges.
5. By making the Air of the Room coolish and dry ; quieting the Passions wholly, or in part ; natural or artificial Rest ; a thin, liquid, and cooling Diet, both in eating and drinking ; and by Medicines no less cooling than diluting.
6. By appeasing the Motion in the very Part, with the Application of cooling, repelling, and astringent Medicines outwardly, mixing with them some Anodynes, or some opening Remedies differently prepared and mixed as Occasion and Circumstances do require.

397. The Hurt received, may be removed by the same Means (396.) ; for having loosened the too great Pulling of the Fibre, its own Power will restore it to its former Shape, and, Nourishment returning therein, restore its former Strength.

398. The obstructing Matter may be made fluxile again, if the same be attenuated and diluted,

1. By restoring to the Vessels their elastick Power of moving to and fro ; which is obtain'd, by lessening the Quantity of the distending Liquid, letting Blood, repeated strong Purges ; or by stimulating the Fibres with some thin, aromatick Liquor drank hot ; with Fomentations, Frictions, dry Cuppings, or Scarifications.
2. By drinking some new, thin, watry, hot Liquor, and thereby diluting the stagnating Bodies.
3. By using such attenuating and resolving Medicines as are at the same time of a Nature opposite to that of the obstrucing Body, and this either outwardly or inwardly, in the Form of Decoctions, Bathings, Fotusses, Steams, Pultus's, Plasters, or Ointments.

399. The same Matter may be softened by drinking thin, watry Liquors, and eating nothing that has any Sharpness or Acrimony of any Kind : by soft diluting Medicines that are able to blunt the Spikes of that Matter, or which are endowed with a particular Sharpness justly fitted to destroy the Sharpness of the peccant Matter, which is commonly call'd a *Specifick*.

400. The Matter is drove back again,

1. by letting Blood copioufly out of an Artery, or a Vein. " Letting Blood out of an Artery, has been of late pretty much encouraged in *London* by some of the most noted Physicians, and no doubt it has answered sometimes ; but as I know some Instances where

" where it did not answer, and that the Apparatus requisite for the Operation must needs terrify the Patient more than that of bleeding in a Vein, (chiefly if for a violent Cephalea,) it be attempted in the temporal Arteries) it is, in my Opinion, safest, and generally as useful to let Blood out of one or more Veins near the Place whence a Revulsion is intended. Which, if true in *London*, is much more so in the Country, where Surgeons are seldom acquainted with that Operation."

2. By loosening the Fibres.

3. By artificial Frictions with Brushes or Cloths, &c.

401. Hence is understood what is meant by a Resolution in all Inflammatory Diseases, whether internal or external, and which the Physician ought always to endeavour at; for that may be called a perfect Cure when obtained without a Crisis, as in (386.)

Of Imposthumations:

402. If those Things from (395, to 400.) have been done without Success, or have been neglected, or done too late, then doth an Inflammation proceed to an Imposthumation (387.) and is known by the Signs there set down. The Indications then are,

1. To change the crude Matters forthwith, and to ripen them into one homogeneous Liquor.
2. To soften both them and the adjacent Parts,

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3. To draw them outwardly.
4. To procure an Opening to the ripened Pus, for its Discharge.
5. To cleanse the Place.
6. To heal the rest as all common Wounds.

403. The Ripening is hasten'd by the Application of such as,

1. Increase the Motion in the Part by fomenting, stimulating, and heating with such as do actually, or by their innate Virtue, afford Warmth, and do this throughout the Body; so that there follows a little Fever, as an unavoidable Consequence thereof.
2. Such as bound that rais'd Motion and Heat within the Part itself, hindering the too great Exhalation and Dissipation by glutinous Plasters that shut up the Pores, and by the softening of the too great Acrimony.
3. By such as moderate the Motion and the Nature of all the vital Fluids, so that the same be neither too sluggish, nor too lively.
4. By leaving the Part close 'till all the Parts inflamed, which are incapable of being resolved, be turned into Pus. And this is the Method to procure laudable Matter.

404. And unless the inflamed Matter be thus changed, the Imposthume cannot be open'd safely, or to any Advantage.

405. The Softness of the Part, the floating of the Tumour upon pressing, the Whiteness, the lessening of Pain, Heat, Redness, Tension, Throb-

Throbbing, Fever; the Top of the Tumour pointing, the Part being sensible of Heaviness; all these do plainly shew that the Pus is perfected, and fit to be let out.

406. If the same be, after this, left any considerable Time shut up in the Part, it grows thinner, sharp; it putrefies, increaseth, consumeth and eats into the neighbouring Parts, and, by its Bulk, Weight, and Motion, creates Sinus's, and Fistules, which differ in their Nature according to the different Places wherein they happen, and are worst of all when in the lower Gut, call'd *Rectum*.

Or the same, after the dissipating of the thinnest Part, grows hard, and occasions hard Tumours, chiefly about or in the Glands.

Or, lastly, it is taken back into the Lymphatic Veins, or the Blood-Veins, through their corroded Orifices, and so is mixed with the Blood, spoils it; and being collected in the Bowels, it corrupts them, by making their Gatherings of the worst Kind, disturbs their Functions, and consequently produceth innumerable and most terrible Diseases.

407. By the same Means as in (402.) the Integuments of the Imposthume may be softened above and below, attenuated and loosened, as well as the adjacent Parts.

408. And even by these Means (407.) the Pus may be thrust or drawn Outwards, having first lessen'd the Resistance of the said Integuments by the suppurating Method in (403.)

409. Then ought to be applied Things of moderate Acrimony, with Emollients mixed together with fattish Ingredients, that so the senseless Integuments may be opened easier and without Pain.

410. Then having pressed the Pus duly towards the pointing Tumour, let the Launcet be stuck into the whitest, softest, the most pointing, the most depending Part, until the Pus coming forth, tells the Surgeon that he has launc'd deep enough; then let the same be raised again, making a large, but even Opening, in its Way, or driving its Point at once into the opposite Prominence of the Tumour, cut all the Integuments between these two Openings, skilfully avoiding all Fibres or Vessels that are whole; then let the Pus be squeezed out gently and by degrees, avoiding to admit much Air or Tents into the Openings.

411. Then let it be cured with Cleansers, suppurating, digestive, balsamick, detergent, and drying Medicines, altering and ordering them according to Circumstances, and the Doctrine of Wounds in general, from (192, to 220.)

412. If the Patient be possess'd with a trifling Fear of the Launcet, let a Caustick be applied to the Part, as in (410.); the Eschar, soften'd with Butter, separated, and the Cure be finished again, as in (410, 411.)

Of Fistules.

413. From hence are easily understood the Origin, Cause, Nature, Place, and Effects of Sinus's, and Fistules (406.)

414. Such

414. Such as are open (413.) are easily discerned; those that are inclosed, easily discovered and traced by feeling the soft and yielding Cavity.

415. They are cured by cutting asunder the lowermost Part, filling up the Cavity with melted Digestives according to the present Circumstances, Injection of Deteratives, and with Ligatures pressing gradually from the Head to the Opening of 'em; but much quicker, by cutting the Integuments with either the Incision-knife, or with Scissars guided by the hollow Probe, &c.
" Which Operations see at large described in
" the fourth Demonstration of *Dionys* his
" Chirurgical Operations."

416. From the preceding Doctrine of Inflammations and Imposthumations thus far, a skilful Physician or Surgeon may learn how to know to prognosticate and even to cure Bubo's, Swellings behind the Ears, Furuncles, Plague-Sores, Carbuncles, Boils, St. *Anthony*'s Fires, Measles, Small-Pox, and red Spots in Fevers.

417. Nor can it be difficult henceforth to know the Event of inward Imposthumations, to which the helping Hand of the Artist cannot attain; for many and great are the Ills (406, 413.) proceeding from the Accumulation of Matter in the several Cavities of the Body.

418. For if the Necessity of the Part be such that the Animal can either not live, or not be in Health without its Integrity, the future Events are easily foreseen, and how difficult the Cure must prove.

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Of Gangrenes.

419. If, upon an Inflammation (371, 372), there follows a *Gangrene* (388.), another Method is necessary for the Cure thereof: For by the Name of *Gangrene*, goeth that State of a soft Part, which tends to Death; but a *Sphacele* is that State which has already destroy'd all Life in the affected Part, when the adjacent are yet living.

420. So that a *Gangrene* mostly rages in, and seldom reacheth farther than to the fleshy Membrane under the Fat of the general Integument all over the Body; whereas a *Sphacele* penetrates every thing to the very Bones: this is generally a Consequence of the former, unless it took its Rise from a Corruption of the Bone of the Medulla, or the Periosteum. From hence may be understood that particular sort of *Gangrene* without any Fever, Inflammation, or Loss of natural Heat that happens to the Parts situated below any considerable Bruise receiv'd by the spinal Marrow.

421. So that the Causes of a *Gangrene* and a *Sphacele* are the same, differing only in Violence, Duration, and Place.

422. So that, 1o. all the Causes of Inflammations (375, to 379.), (if the Liquids do stagnate entirely, and the circulating Blood doth with Violence run against the Part) do hereto belong.
α. A strong Ligature of the Veins. β. A Compression of the same from any Cause, such as Tumours, &c. γ. An intense Cold. δ. The Perspiration obstructed in a Phlegmon by Astringents; fat, cold, repelling, and stupefying Applications; chiefly, if the internal Juices be sharp,

or if any acrimonious Ingredients be mix'd up with the external Means. ϵ . An internal or external Inflammation. ζ . Wounds, Bruises, Luxations, Fractures chiefly, if the Bandages be laid on too tight. η . Sharp, oleous Medicines applied to sound or sick Parts. θ . The lying of the Patient upon inflamed Parts. ι . Ruptures not timely reduc'd and strangl'd, either with their proper Contents, or from without in the narrow Processus's.

423. 2^o. All things that give an Edge to the Liquids, and thereby enable them to cut through and destroy the Vessels; such are, α . A long, continued Stagnation of an inclosed and warm Humour, whence the Acrimony of (80.); a Corrosion, whence the Blood gathers into an Aneurism, the Pus into an Imposthume, a Gathering of Water in the Cranium, Chest, Abdomen, Scrotum, &c. Bruises, and Wastings of Liquors, own the same Cause. β . An ill-natur'd, diseased, and sharp Disposition peccant through the whole, and falling upon the affected Part, as a lymphatick Juice flowing for a long while about tendinous Parts, the watry and malignant Blood of Cancers, the Bloody-Flux, the putrefied Waters in Dropsies; the flowing of febrile, pestilential, varicous, or scorbutic Matter towards fleshy Parts, and chiefly the Gums.

424. 3^o. Such as occasion the Death of the extreme Parts, by the Defect of the vital Juice; as, the long-continu'd Posture of sitting or lying down in old People, or an extreme Weakness, great Bruises upon any large Nerves, or Plexus of Nerves, upon the Back-bone, or spinal Marrow (326, 421.)

425. 4^o. Po-

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425. 4º. Poisons ; the Nature of which is more the Object of our Admiration, than of Mechanical Knowledge.

" There are, indeed, Poisons, whose *swiftness* of *Infection* is very surprising ; others, if we may give Credit to Travellers, whose *Slowness* is as much puzzling : yet I cannot help thinking, that if the Method propos'd some Years ago, by Dr. *Mead*, in his Essays upon Poisons, was pursued by diligent and knowing Mechanicks, but we might arrive at a right Knowledge of their Operation : But whether from thence we should at the same time find out a proper Antidote to each, or remove their Effects from any general Rules, nothing but Time and Experience can shew."

426. The Signs of an approaching *Gangrene*, are plain from the Knowledge of its Causes, from 422, to 425.)

427. But the Signs of its being already present, are, 1. The Phænomena of an Inflammation, suddenly vanish'd, without its Causes being first removed, or corrected : Compare (382, 383, 385, with 422, to 425.) 2. The Dullness of the Feeling. 3. The Colour being changed from red first, into a paler, then into an ash, tawny, livid, and, lastly, a black Colour. 4. The softness and withering of the Skin, and the Impressions made with the Fingers Ends not rising again. 5. Pustules fill'd with a lymphatick Ichor, somewhat yellow or reddish all over the inflamed Part. 6. When from a great Coldness there has ensued a great Itching and Pricking,

ing, together with an intense Redness, which is soon succeeded by a mortifying Blackness.

428. That a *Sphacele* is at hand, may be known from these Signs of a *Gangrene* (427.) when still increasing.

429. The Signs of its Presence, are, 1. A preceding *Gangrene* of the worst Kind. 2. The entire Loss of Feeling and Motion in the Part; so that the same being cut, prick'd, and burn'd, feel nothing, but be only sensible of a Weightiness. 3. A livid, tawny, black Colour. 4. A Softness, Withering, and Coldness of the Skin, its being loose, and at last dry and hard. 5. A cadaverous Stench. 6. A Corruption communicating its killing Poison, and eating very deep into every adjacent Part, even to the Bones.

430. The great and hasty Danger of this Disease requireth a true and exact Prognostication.

431. Which will be such, 1. If the Patient's Age, Constitution and Strength, and the Violence of the Disease, be rightly considered. 2. And the Quickness of the same. 3. If the internal and external Causes be known. 4. The Season of the Year. 5. The Part affected, so far as it is more or less necessary to Life, or according as it is of a moist, sinuous, or dry Composition.

432. Hence the following plain Rules :

An ill-natur'd, insuperable *Gangrene* terminates in a *Sphacele*.

From a *Sphacele* ensueth the Death of the Part, and a sudden Infection of the neighbouring Parts.

A Gan-

A *Gangrene* requireth a speedy Help.

A sphacelated Part must be suddenly extirpated.

A *Gangrene* of the Brain, of the Bowels and Bladder, is mortal: And if the same doth happen in acute Diseases, it occasions Death in a short Time, though the noble and greater Parts seem hardly injured.

A *Gangrene* of the inside of the Mouth, Lips, Nostrils, and of the Genitals, is hardly curable.

A *Sphacele* of the Extremities, and of tendinous Parts, is mortal in aged People.

A *Gangrene*, to consumptive, dropical, and scorbutick People, is of a very dangerous Consequence, and most times a Fore-runner of Death.

A *Sphacele*, mounting upwards, occasions Wakefulness, Deliriums, Swoonings, Belchings, Hiccoughs, Convulsions, Pains, cold Sweats, with a Drowsiness; all which forebode Death.

A Lividness, Blackness, a Dryness round the Ulcers, signify that a *Gangrene*, a Mortification, and Death itself, is at the Door.

433. The Indications to cure a *Gangrene*, are, 1. To preserve the vital Strength. 2. To hinder the corrupted Matter from returning into the Veins, &c. 3. To put a Stop to the Putrefaction present, and to confine it as much as possible.

434. The vital Strength is preserved and confirmed, by giving, 1. All that is capable of overcoming the inward Causes, from (422, to 425.), do raise the Spirits, preserve the Circulation of the Liquids entire; having at the same time a

Regard

Regard to Age, Sex, Constitution, and Season : These therefore may be taken out of the cooling, as well as warming Medicines, as Occasion seems to require. 2. A quick, restorative Diet. 3. Outward Applications to the Veins or Nostribs, of Bread or Poultis's soak'd in such Medicines as are indicated in the first Number of this very Aphorism.

435. The putrefied Matter is hinder'd from returning into the Veins, 1. By confirming vital Strength (434.), that is, increasing the Motion of the Liquids towards the Surface of the Body. 2. By procuring a Vent to the same on the outside of the Body, which may be done with Fomentations, Cataplasms, made of dia-phoretic, emollient and loosening Ingredients ; by Scarifications, Cuppings, Leeches, or even actual Fire being held very near the Part.

436. A Beginning Putrefaction is corrected, 1. By removing its apparent Causes (422, to 425.)

437. 2. By correcting its nearest and immediate Cause, *viz.* the Stagnation, and Heat. α . By pickling, as it were, the stagnating Liquids against that Putrefaction. β . Fencing the Solids against the same. γ . Procuring Motion to the corrected stagnating Fluids through these fenced Vessels.

438. The Liquids are preserved by the Use of Salt, Vinegar, Wine, Spirit of Wine, and Aromaticks.

439. The same (438.) will be a Defence to the untainted Solids.

440. Motion

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440. Motion may be procured to the stagnating Liquids. $\alpha.$ By great Draughts of warm watry Liquors, or the same outwardly applied. $\beta.$ Stimulating the Arteries with such as are of a contrary Nature to the Disease. $\gamma.$ Moving the Juices with Heat, Frictions, and Cordials, $\delta.$ Lessening the Quantity, by letting of Blood, which kept the Vessels too much distended.

441. These (from 434, to 440.) being soon done, often repeated, will very often cure a Beginning *Gangrene* by a successful Correction, or a gentle Diaphoresis.

442. But if the Liquids are already putrefied, and their most moveable Parts are exhaled, and the Channels are destroyed, the Disease will not be conquer'd by these Remedies; nor will the offended Part be restored to its perfect State again, but the adjacent will even be much consumed by the Motion of such living Particles as are not capable of Exhalation.

443. So that in this Case (442.) the sole Intention ought to be to separate forthwith the dead Part from the living.

444. This Separation is obtained always by the Strength of the vital Liquid running to the Extremities of the gangrened Eschar, which is there suffocated, and there forced to suppurate (387.); by which Mechanism those Fibres are loosened which connected the gangren'd and sound Parts together.

445. So that it appears that the Art consists, 1^o. In doing those Things which are laid down from (433, to 440.) 2^o. In hastening the Suppuration. 3^o. In softening the Eschar. 446. To

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446. To hasten the Suppuration, the corrupted Part ought to be scarified as far as the living sound Part : For having hereby lessened the too great Suffocation, there succeeds an Imposthume in the room of a creeping *Gangrene*, whereby the gangrened Skin and Fat are generally separated from the subjacent yet living Parts.

447. And that the Blood may the more circulate through and towards those Extremities of the Vessels, Leeches, Cupping-glasses, and the like drawing Helps, are very often useful.

448. The scarified Parts (446.) must be fomented with hot Liquors, such as avert and resist Putrefaction (438.), and soften (403.) the Hardness of the Eschar.

449. Parts that hang loose, dead, separated, and the softened Eschars, ought to be taken away with Pincers, or Scissars.

450. On the whole affected Part ought continually to be applied hot Cataplasms, whose Heat should be always kept up, to increase their Virtue ; which must be made of emollient Diaphoreticks and Anodynes.

451. It will also be of Use, to uncover or take off the Dressings seldomer than usual.

452. After these (from 446, to 451.) have been done, the Eschar begins to be contracted, the scarified Parts to be moistened, the Edges of the sound Parts to swell, to grow red, to suppurate, and the dead Part to be loose ; it is a Sign that the Separation of the dead Part from the living is near done, that the creeping Ill stops its Current, and that the Part will soon be cleansed.

453. Then

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453. Then ought to be applied soft, anodyne Balsamicks and Digestives; the Ulcer is but seldom to be uncovered; all things avoided which occasion a Stiffness in the Fibres; the Part must be kept quiet and easy, and the Cure must be finished according to the Rules relating to *Ulcers*, in (411.)

454. If the *Gangrene* has been occasioned by a hard Frost and Cold (427. No 6.) the Part must be covered over with Snow, or with Linen made wet in Ice-cold Water, until the Points of the Frost being drawn into the Snow or Water, the same begin to be loosen'd by the Return of the vital Strength. " If a contrary Method be taken, and the Patient found, as it were dead in the Snows, be suddenly brought to the Fire, unavoidable Death ensues from an incurable *Gangrene*. The only sure Method therefore is, to rub him all over gently with Snow, or cold wet Cloths, then to wrap him up in Blankets, and, by slow Degrees, bring him nearer and nearer to the Fire, as he begins to give Signs of Feeling."

455. If another Method be taken, by applying Heat to the Part immediately, the same will suddenly putrefy; for the Points of the Icicles will thereby be put into a violent Motion, but not be drawn out of the Part.

456. Which (454.) being duly done, the Patient must be strengthened and revived by warm Cordials, and even put into a Sweat.

Of Mortifications.

457. If a Gangrene is already converted into a Sphacele, whatever is infected must be taken off.

458. Which is done different Ways, according as the Part is wholly, or only in part mortified, or according to the Seat and Nature of the Part affected; which sometimes cannot be wholly extirpated; such as the Buttocks, &c.

459. If therefore a Part is not corrupted to the Bottom, or cannot be extirpated, the Surgeon must endeavour, 1. To stop its Progress.
2. To take off what is corrupted already.

460. Its Progress is stopp'd, if the Communication between the dead and living Part is cut off.

461. This is done, if in the neighbourhood of the corrupted and the sound Part, (but always taking in part of the sound) a Boundary is marked out with Cutting, Burning, or Causticks, and that every-where deep enough.

462. The corrupted Parts are separated, if after having first stopp'd their Progress (461.), or, at the same time of doing it, the whole Part be burn'd and cut down to the sound Bottom, and is afterwards consumed by a hot Application of a very sharp Lixivium, till it be entirely got away by Eschars, which are continually to be softened (403.) and removed till you are come to the Quick; avoiding very carefully the Parts that are quick and sound.

463. And when, afterwards, the Signs are present, not only of the Part's being alive, but found also ; then ought what remains to be treated like an Ulcer, or a Wound.

464. But if an extreme Part, sphacelated to the very Bone, can be taken off, without endangering Life, the same ought to be extirpated together with the Bone ; which being once divested of its Flesh and Vessels, can neither be nourished, nor kept alive.

465. This Extirpation (when in the Fingers, Wrist, or Instep) is performed with a Hammer and Chissel.

466. But in greater Limbs and Bones, such as the Thighs, Legs, Shoulder, or Arm, there is Occasion for more troublesome Labour ; which will be known from what follows.

467. The Place where the Extirpation is to be performed, is chosen by these Rules ;

1. The sound Part must be preserved as much as possible and convenient.
2. The corrupted Part must all together and at once be taken off with the greatest Exactness.
3. The most commodious Use must be procured to the remaining Part of the Limb.

468. So that in all the Limbs, except the Legs, the Amputation ought to be made in that sound Part which is nearest to the diseased, (from the Reasons given in N^o 1, 2. of 467.) But in the Legs, the Amputation ought always to be made a little below the Knee, although nothing but the Foot should be sphacelated. (See N^o 3. in 467.)

469. T⁹

469. To perform the Amputation, and to know the future Consequences thereof, it is requisite to have regard,

1. To the Preparation.
2. The Performance itself.
3. The Cure of the intervening Symptoms.
4. The Consolation.
5. The supplying of the lost Limb.

The Preparation is accomplish'd,

1. By a Compression of the large Blood Arteries, by Means of pyramidal Bolsters, and by twisting the Ligature to be placed over them on the sound Part near the diseased.
2. By drawing the Muscles of the Part strongly and equally, by Means of a Leather Bandage, made with Loops and Strings to pull by.
3. By keeping the whole Body of the Patient; and the Part to be amputated, very steady.
4. Bending the Part gently, that the Muscles may hang loose, and may not be cut beyond the Place of Extirpation.
5. Giving a Cordial sleeping Draught to the Patient some time before the Operation.

470. The Operation is perform'd after this foregoing Preparation (469);

1. With a sharp, strong, crooked Knife, obtuse on the Back, well-temper'd, which is thrust under the Leg, and remounting by the Inside 'till it comes to the Place where the Operator began which makes a circular Incision, cutting all the Flesh to the very Bones, not forgetting the Periosteum; which is soon

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done, if the Operator cuts with all his Strength, and equally. *Dionys Demonstr.* IX.

2. If there be two Bones in the Part, instead of the Knife, the Surgeon takes the Pen-knife to cut the Flesh betwixt the Bones exactly, and even repassesthe said Pen-knife around the Tibia, to cut the Periosteum, if not already well separated.
3. The separated Parts ought to be drawn from each other by some Servants, or by means of some Linen put between the Lips of the Wounds, to make the more Room for the Saw, that the same may not touch the Flesh.
4. Then is the Bone divided with a sharp, fine, strong, and straight Saw, which is to be moved first gently, 'till the Saw be fixed in, but then strongly and equally, and always perpendicularly; beginning to saw the smaller Bone first, and afterwards the biggest (when there are two) for fear that otherwise the weakest should fly out into Splinters by the falling of the Saw upon it.
5. During all the Time of Sawing, some Servants ought to bend the Bones, to make more Way for the Saw.

471. The chief Symtpom which follows after this Operation, is the Los of Blood, which requireth immediate Help.

1. *The Vessels*, whose Situation is discovered by the streaming of the Blood, upon the slackening of the Ligature, must be taken hold of with Pincers that have a Spring, or are held by

by a Servant, and being pull'd out towards the Knee-pan, are secur'd by running a Thread thro' them, and tying them close with it, *if large* : Or else we shut the Vessels up by means of a Thread run in at both Sides of 'em, and threaded into two crooked Needles.

2. The Hæmorrhage may also be stopp'd, by applying red-hot Irons to the Vessels, which make 'em shrink, &c.
3. Or with Bolsters impregnated with Vitriol to the Parts ; as also other astringent and absorbent Medicines outwardly applied.
4. The Muscles and Parts which were drawn back and kept asunder (469. No 2.) are loosen'd and pull'd over the Bone as far as they can go, to cover them.
5. The Stump well laid over with two Stop-ples, and charged with Astringents, is forced into a Bladder slit on Purpose for that End, and also furnish'd with astringent Powders.
6. Then is a very firm Ligature laid all over this.
7. The Patient ought to be kept quiet, well-dieted, and have Sleep procured him by proper Means.

472. The Bone is heal'd, if speedy Care be taken of the Exfoliation, and a Putrefaction or a Caries is prevented ; which is effected, if small Bolsters, well soak'd in Tincture of Mastich, be immediately applied.

473. The Flesh is heal'd by the same Means as other Wounds ; about which, consult from (189, 192, to 210)

474. If the Patient, who thus loses a great Limb (466, to 471.) happens to have strong Bowels, and, consequently, to make a great deal of Chyle and Blood; there often will ensue the Effects of a Plethora, described in (106.) Which to remove, the Patient ought to be bled sometimes, as Occasion requires, and to be kept to a moderate Diet.

475. The Damage sustain'd by the Loss of the Limb, is made up, in part, by fixing or adding to the Body an Instrument made in Imitation of the lost Limb: About which, consult *Aquapendente*, *Hildanus*, *van Solingen*, and *Ambr. Paré*.

Of Burning.

476. When a Fire-coal, or any thing containing a great Heat, is applied to our Body, there ensueth a Destruction of small Vessels, and an Extravasation of Humours, which vary according to the Difference of the Cause, of the Time during which it is applied, and of the several Parts thus affected.

477. The different Degrees of these various Effects (476.) are like to those which have been observed in Inflammations, beginning from the slightest to its greatest and worst Effect, a Mortification. (See from 370, to 464.)

478. So that the Phænomena, Diagnosticks, and Prognosticks are the same.

479. Nor doth the Cure differ in any thing material. Drinks proper in Inflammations are always necessary in this Case.

480. A Burning or Scalding, which is still within the Pale of an Inflammation, which admits of *Resolving* (386.) is to be cured by such Means as pickle or preserve the Liquids, put them into Motion, free the Vessels, and keep them entire ; which is obtained by applying to the Part a moderate Fire, warm Fomentations, and Cataplasms (395, to 402.)

481. A Burning, which tends to a Gangrene, known from the Skin being already shrivell'd and corroded with Vesicles, requireth the same Cure as an Inflammation in that Degree, with Fomentations, Cataplasms, Emollients, and Digestives (402, to 454.)

482. A Burning, which has already proceeded to a complete Gangrene, or to a Sphacelæ, is known and cured like the Diseases from (419, to 476.)

483. No-where is more Occasion for procuring a smooth and even Cicatrice, than in these Cases (217.)

Of a Schirrous Tumour.

484. A *Schirrus* (392.) may be occasioned by any thing able to coagulate, thicken, and dry the Juices in the Glands : Its Seat therefore is any Kernel, but chiefly such as contain a Liquor which thickens easiest, or, because of its Situation, occasions the same to stagnate most. So that this Distemper is most common in the Eyes, Nostrils, Mouth, Breasts, Arm-pits, Groins, the Pancreas, Mesenterium, and the Uterus.

485. So that the same may be produced by an Inflammation (392.) in those Parts ; by

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Milk stagnating, containing too great a Proportion of caseous Matter, harden'd and coagulated : by Contusions (322.) ; by violent Motions and Attritions of those Liquids ; by Plague-Sores, Bubo's ; Ulcers closed too soon ; by the Blood being over-charged with black Choler carried thither, or black Choler itself, and chiefly when at the same time the Menstrua or hæmorrhoidal Fluxes are suppress'd ; by Matter's growing stony, thick, rough, and like Plaster ; by a sorrowful Life, hard Living, or this vicious Habit being deriv'd from Parents.

486. The Effects of a Schirrus, when made, are to occupy the adjacent Parts by their increased Bulk, to squeeze, and even to lay a great Force upon 'em ; to hurt and damage the Function both of the schirrous Part, and of the adjacent ; whence Inflammations, Impostumes, Gangrenes, Palsies, Wastings, Sphaceles, Barrenness, difficult Labours, Iliac Passions, and the like Ills, are produced ; whereof the immediate Cause is easily known from the Nature, Offices, and Seat of the damaged and of the compressing Parts.

487. Their Presence is known from their Causes (484, 485.), Effects (486.), Phænomena (392), the affected Part 484.), compared with the Constitution of the Patient.

488. From the same, their Event (487.) is foretold, and chiefly considering the Time of their Duration, and their Effects (486.) Of itself a Schirrus is harmless enough, but becomes malignant, if by any Means you put its Cause and Body in Motion.

489. Which

489. Which Motion being scarce avoidable, occasions continual Uneasiness and Fear.

490. So that whoever attempts the Cure of them, ought to observe,

1. That if a Schirrus be recent, good-natur'd, seated in a convenient Place, not yet quite harden'd, the Patient be of a very good Constitution, and sound Juices; that in those Cases he may attempt to *resolve* it by gentle and emollient Means; whereto belong the Steams of Acids directed to the Part by Means of a Funnel; "but chiefly the Use of " Mercury given inwardly in small, but often " repeated Doses, and outwardly mix'd with " cooling and emollient Medicines."
2. If it doth not give way to those Means, and that the Place, Situation, the adjacent Parts, Moveableness, the Degree of Ill, the Strength and healthy Constitution of the Patient will bear it, the same ought to be forthwith cut out with a Knife.
3. If it is of an old standing, and, from its Colour, Hardness, Unevenness, Itching, and beginning Pain, is known to be malignant; if from the Seat, and adjacent Parts, there is Reason to fear that it is adherent to several Vessels, and in an ill Habit of Body, then is it impossible to extirpate it: Then ought all things to be avoided, which may increase the Motion there, that it may not turn into a Cancer. So that all emollient, suppurating, eating, caustick, and dissipating Medicines, or Applications, are here forbidden.

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4. But only those are of Use mentioned (490. N^o 3.), that is, Anodynes, such as quiet Motion, Medicines made of Lead, and very gentle Mercurials.

491. If at the same time the Patient's Constitution be bad; that ought, above all things, to be corrected by proper, but gentle Means.

Of Cancers.

492. If a Schirrus (392.), by long Standing, Increasing, and Motion of the adjacent Parts, is thus moved, that the neighbouring Vessels around its Edges begin to inflame, it's become malignant, and, from its Likeness to a Crab, is now call'd a *Cancer*, or *Carcinoma*.

493. In which we discover the Conditions of the first Degrees of Malignancy, from the light Degrees of Inflammations all round it, from an Exuberancy of a putrid Acrimony in the very Part; from the Use and Dignity of the same Part, from the Number and Condition of the annexed Glands, and, lastly, from the ill Habit of the Patient.

494. If it be still contain'd within its proper Skin, it's an *occult Cancer*; but if that Skin be already broke through by an Ulcer, it's call'd a *manifest* and an *ulcerated Cancer*: This last is the Off-spring of the former.

495. The Cause of a Cancer, is all that produces a Schirrus (484, 48.5) A Sharpness convey'd into, and mix'd with the Schirrus; an Alteration in the Circulation of Humours, from a Suppression of the Menstrua, Hæmorrhoids, or

any

any other Hæmorrhagy from Barrenness, Abstinence of all venereal Acts ; the leaving off of Child-bearing from the Age of 45, to 50 ; an austere, sharp, or hot Diet ; the several and even contrary Affections of the Mind, whether Melancholy or Anger, and the like ; any external Irritation of the Schirrus by its Motion, Heat, and Acrimony ; or Medicines which, by their emollient, suppurating, caustic, or blistering Qualities, will produce the same Effect, whether outwardly or inwardly applied.

496. Its Seat is the same with a Schirrus (484.)

497. The Presence of an *occult Cancer* is known, when the Signs of a Schirrus (487.) have preceded, and, as an Addition, there is a Titillation, Itching, Heat, Redness, a tearing, burning, and poignant Pain ; when the Colour changeth from reddish, to red, purple, blue, livid, and black ; when it is grown very hard, uneven, and rough, with a pointing Top ; when the Tumour is increased, and the adjacent Vessels also are swell'd with Nodes and Varices, and their Contents look thick and black.

498. An *ulcerated Cancer* is known to be such, for having had first the sure Signs of a preceding *occult* one (497.), and that is uncovered ; for then the Skin is laid open, as by an Excoriation, and there oozes out a very thin and sharp watry Blood.

499. Its Progress is thus : The *undamaged Vessels* being worn out about the Margins of the hard Cancer, by the Power of the flowing vital Liquid,

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Liquid, and pull'd asunder by the rising Tumour, *are at last broke*: hence a Putrefaction; then a subtle, sharp, stinking, cadaverous Matter, preying upon the surrounding, and eating through the next adjacent Parts, still gaining Ground all around, and shooting its malignant Roots everywhere deep into the adjacent Muscles and Vessels, by Means of which it fastens itself; the Lips swell, are turn'd up, and of a frightful Aspect. Now the Pains begin to be insupportable, burning, pungent, and gnawing; the Colour is of ash, then livid, and black; occult Cancers begin to communicate themselves to other distant Places in the Body; at last come on Haemorrhagies, Convulsions, slow hectic Fevers, a wasting of the whole Body; it becomes void of Stench, or any Odour; there grow painless Calllosities in the Ears, the Patient faints away frequently; so that when all the Substance of the affected Parts are eaten through, and the whole Body is consumed, Death follows, as a necessary Consequence.

500. In People of a sound Habit of Body, an occult Cancer, unprovoked, may easily be bore; but if they meddle with it, you may foretel what was just now (490.) mentioned.

501. A small, beginning, loose Cancer, seated in a convenient Place, not adhering to large Vessels with its Feet, occasioned by an external Cause in a youthful and healthy Body, and single withal, ought forthwith to be either pull'd out, or the Part, in which it is, to be cut off.

502. All

502. All emollient Medicines therefore, such as shut the Pores, suppurating, sharp, excoriating, vesicating, and Causticks are to be avoided; for their Application infallibly converts it into an ulcerated Cancer.

503. A large Cancer, an old, adherent one, situated in Places unfit for Extirpation, grown to large Vessels, or lying close upon them, arising from an internal Disposition and Cause, in an old Body of an ill Habit, inclined to breed Cancers, when there is already some other in the same Body, ought not to be meddled with at all, neither by Cutting (501.), nor Physick (502.)

504. For unless it can be rooted out entirely, with all its Roots and Seeds, it will grow more ill-natur'd, turns upon some inward Parts, begets more, and enlargeth those already produced.

505. The Cause of the Cancer ought to be removed with the Cancer, or even before it be taken out.

Unless it can be taken out entirely, it ought to be relinquished.

Those of the Uterus, of the Throat, of the Palate, of the Arm-pits, and of the Groins, are incurable; those of the Lips, very difficult to cure.

506. If therefore the Case is as in (503.), we endeavour at two Things: 1. The keeping of the Evil dormant and quiet. 2. The asswaging of Spmptoms.

507. It is kept quiet, 1. By defending the Place from all external Injuries, by Lead Medicines

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medicines and Opiates. 2. By lessening, correcting, or diverting the known Cause (495.), whereto belong gentle Purges from Vegetables or Mercurial Preparations given often, but in small Doses. 3. By diluting and gentle opening Medicines, and moderate Alcalies, as testaceous Powders, and the like. 4. By avoiding every thing that might be a Supply to the inward Cause, whether applied outwardly, or inwardly taken.

508. The Symptoms may be aswaged by the same Means (507.), and acute Pains require Opiates in pretty large Doses.

509. An ulcerated Cancer 498, 499.), unless it may be extirpated, requireth, for Ease, to be cleans'd often, and to have the softest cooling Preparations of Lead applied, besides the Use of what is contain'd in (507, 508.)

510. The Extirpation is perform'd, 1. After having first prepared the Patient with a strengthening Diet and Medicines, and such as are contrary to the Cause. 2. By cutting out the whole all together and at once, with all its Roots, having run a strong Thread through the Body of it, or holding it up with a Fork thrust underneath it, or having laid it bare, and separated its Integuments from the adjacent Parts and Vessels, by lifting up the same by a Thread run through it, and at last loosening the Whole on all Sides with much Caution 3. The Wound then remains to be cured, which ought to be done by laying on a Bandage very gently, and dressing it but seldom, having first squeez'd the Blood out of all the surrounding Parts.

511. After

511. After this (510.), the Patient ought to continue very long the same Diet and Medicines as if he had still a Cancer. And from the precedent Aphorisms it is plainly enough foreseen what Ills must be expected from a Cancer situate in Places unfit for Extirpation.

Of the Diseases of the Bones.

512. The very Bones are subject to the like Distempers that we have been hitherto describing, as incumbent to the softer Parts.

513. For the Interstices of these are cloath'd with a thin Membrane, endow'd with the same kind of Vessels, and moistened with the same sort of Liquors continually convey'd thither.

514. And as those Distances (513.) are greater, so do the Bones come nearer to the Structure of a softer Part.

515. And are therefore more apt to suffer the same Diseases as the softer Parts are mostly subject to.

516. Such is the wider Part near the Joints; whereas the Bone is closer in the Middle, and has fewer Vessels, and them smaller.

517. Hence (514, 515, 516.) the first Distinction of the Diseases of the Bones.

518. The Bones, besides the Vessels, which they have common with the softer Parts (513.), have in their wider Cels (516.) Vesicles full of a subtile Oil and Marrow, which is there separated and laid up for their particular Uses: these Vesicles larger near the Joints, are gradually abolished near the Closeness of the Bone; and being

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being changed into very minute Channels dedicated to the Conveyance of Fat, almost vanish away, and disappear.

519. Hence (518.) another Class of Diseases in the Bones.

520. The Bones have on their Outside a Periosteum embracing and covering their convex Part, conveying the arterial Vessels into those Cells, and into the Marrow receiving the Veins, which are some large, some small, but infinite in Number.

521. Hence (520.) the third Class of Diseases in the Bones.

522. The Bones have another Periosteum on their Inside, surrounding and covering the concave Receptacles of the Marrow, distributing the arterial Vessels into the medullar Vesicles receiving the Veins; and they also are large, small, and infinite in Number.

523. Hence (522.) the fourth Class of Diseases in Bones.

524. The Bones have in their Cavities infinite Vesicles full of medullar subtile Oil, preserving the same, distributing it not only mutually amongst themselves, and between the Interstices of the Plates, but also in the Cavities of the Joints, and through the straight Pores. These Vesicles have Arteries, Veins, lymphatick Ducts, Channels to convey Fat, small Nerves, and Membranes.

525. This (524.) constitutes the fifth and last Division (in this Kind) of the Diseases in Bones.

526. If

526. If the medullar Oil (518, 524.) doth stagnate in its Vesicles, conveying Vessels, or in the Interstices between the Plates of the Bones, it becomes fainous, sharp and rotten; by its Heat, and vital Motion; it puts a Stop to a fresh Secretion; it will close the conveying and secreting Vessels; it will inflame its Vesicle, bring it to a Suppuration, or corrupt both Liquids and small Vessels into a gangrenous Putrefaction: Hence the very Substance of the Bone being robb'd of its Vessels, depriv'd of its vital Liquid, eaten through by acrimonious Juices, is turn'd, as it were, into an ash-coloured Chalk, where it is thinnest, that is, in the Cells of the Process's; whence follows a Pain, Heat, Throbbing, Swelling, Imposthume, and a Rotteness of the worst Kind. This Stagnation may proceed from any Obstruction. (See what has been said about them). But if it comes from an internal Disease, then doth it almost deserve the Name of a *Spina Ventoſa*, the worst of all Diseases which the Bones are capable of.

527. It appears that the Signs of this Disease, and its State, as in (526.), are the Signs of a deep Inflammation, not shewing itself on the Surface of the Flesh, nor discernable by Feeling.

528. From the difficult Separation, Cleansing, Abſtertion, &c. many Ills may be foreseen, and the Cure be pronounced very difficult.

529. The Cure is best of all attempted, 1. By filling all the Vessels copiously with Decoctions made of such things as do penetrate powerfully, are very cleansing, and resist Putrefaction. 2. Then

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by putting all the Humours in a strong Motion,
by occasioning a profuse Sweating with Spirit of
Wine set on fire, and directed to the Body of the
Patient, at a convenient Distance, under the Bed-
cloaths, or any other way. 3. And at the same
time while the Patient is sweating, by directing
the strongest Motion towards the Part affected,
by topical Fomentations of hot Steams.

530. If this be long continued, it often doth
a great deal of Service, chiefly if at the same
time the Patient observes a low Diet, directed
against the oily Putrefaction.

531. If the arterial, nervous, and likewise the
lymphatic Texture (513, 516, 520, 522.) be ob-
structed through the Defect of new Liquids, or
the Stoppage of those already convey'd, the same
Diseases will again ensue, as in (526.), differing
only in Rank and Order of Succession.

532. Of which (531.) consequently the Diag-
nostic, Prognostic, and Cure are the same as in
(529, 530.)

533. And it is plain, that the Difference of
Danger, is chiefly from the Difference of Place
(518, 520, 522, 524.) where the first Cause of the
Distemper is grown and seated; which having
first denoted, the Rules will be easier understood.

534. 1. That Inflammation of the Bone will be
the mildest, which is occasioned by the Inflam-
mation of the external Periosteum, whose Causes
are numberless; (see the whole History of In-
flammations), and its Effects are known.

2. It is known from the Signs of a deeply-
seated Inflammation, which, upon a Pressure,
increaseth.

3. A great many Ills are foreseen (526, 521.), unless soon cured.

4. The Cure is like that of an Inflammation, chiefly by taking Care that the whole Mischief may be drove out of the Bone to the Surface of the Body ; which is obtain'd by Fomentations, and, sometimes, by Incisions to the very Bone.

535. That such an Inflammation is tending to an Imposthumation, is apparent, 1. From strong Signs of a violent Inflammation before (534.) 2. A Throbbing, a Fever, and, by fits, great Tremblings and Shiverings, with the Hair standing an End. 3. The absent Signs of a Resolution (386.)

536. That the Imposthumation is already present, is manifest from the Signs of a Suppuration lying deep under the Surface. (See 287, 405.)

537. The Consequence thereof is, that the Pus having gnaw'd the Periosteum through, doth uncover the Bone, robs it of all its Vessels there, and soon corrupts it. (See 406.)

538. Wherefore the Imposthume is to be open'd immediately, the Pus to be let out, the Ulcer to be cleans'd (403, 404, 409, to 411.) ; and then ought the Bone to be treated by the same cautionary Rules as in the Case of the Wounds of the Head, when the Cranium is laid bare. (See 252, 253, 259, 260, 262, 266.)

539. That this Inflammation (534.) is tending to a Gangrene of the Part, is known, 1. From the Signs of a precedent excessive Inflammation (388, 422.) 2. The ceasing of Pain, without

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any good Reason for it. 3. A thick, slow, and scarce painful Tumour of the incumbent Muscles and Parts.

540. That the same is already present, is known from (539.), and the pale, ash, and livid Colour of the incumbent Parts.

541. Then is the Bone, as soon as become bare, and deprived of its vital Liquid, consumed into a Caries, by the sharp, putrefied, gangrenous Matter (526.), and spreads quickly, infecting all around it.

542. So that the Place ought immediately to be laid open to the very Bone, and to be cleans'd. As for the Bone, it is again to be cured, as in (248, 249, 252, 258, to 266.)

543. If the inward Periosteum (522.) be inflamed, it acknowledges the same Causes as (534.); And as to the inward Side of the Bone, the same Effects ; it ends either in an Imposthume, or a Gangrene, (535, 539.) but of a much worse Sort, because no Parts of the Evil can be made to exhale ; whence the whole Marrow, and the whole Bone must unavoidably perish, with a most stinking and horrid Caries.

544. Whence it also appears, that whether this Membrane (522.) be first seized with an Inflammation, or whether it received the Harm from the Marrow itself originally inflamed, and communicating the same, that the Distemper call'd *Spina Ventosa* must soon follow, with all its dreaded Effects, which hitherto has mostly proved incurable. (See 526.)

545. This

545. This Disease is known, when it yet continues within the Bounds of an Inflammation;

1. From the general Signs of Inflammations.

2. From the Depth of its Situation. 3. From an obtuse, fix'd, long-continued Pain, yielding to no Remedies whatsoever, nor increasing at the Pressure of the Hand. 4. Which, however, increases after a Motion of the Muscles.

546. It is cured, 1. By the Method used in all Inflammations (from 395, to 401.), and then as soon as the Signs of a Beginning Resolution appear (386.) 2. By the Method proposed in (529.) being strictly pursued.

547. But if either a Suppuration or a Gangrene ensueth, and is certainly known from the Signs of a preceding ill-natur'd, inward Inflammation (545.), and from a fixed, deep, and obtuse Pain; Recourse must be had to the Method in (529.); for if that doth not, nothing will cure.

548. For the whole inward Substance of the Bone being then rotten, and the inward Bone being tumefied, inflamed, and carious, the outward Periosteum is inflamed, pull'd asunder by the Acrimony; the incumbent Parts being spoil'd by a slow Contagion, grow spongy, tumefied, and painful; the whole Limb is lost; nothing is left for it but Extirpation.

549. A pocky, scorbutick, and rickety Quality is often the Cause: Hence may be understood what is a *Gumma Gallicum*, Venereal Tophi, Nodes, Excrescencies, Imposthumes; what a Caries of the Bone, and a *Spina Ventoſa*.

550. Hence we know why a carious Bone doth so often change its Colour, from a bluish white, into a fattish white, into a yellow, ash, livid, and black Colour ; and what Degree of Corruption is indicated by each of them.

551. From the same Reasons, it is plain, why a carious Bone grows, by degrees, first uneven, then rough, spongious, friable, soft, and very brittle.

552. And also why the same exhales a Stench like to rusty Bacon.

553. And why in an ulcerated Part, occasion'd by a Caries underneath, the incumbent Flesh is soft, flagging, fungus, bloated, and swell'd ; the Lips of the Ulcer turn'd up ; the ulcerous Matter be clear, thin, somewhat gleyish, stinking, and full of little black Scales ; why the same doth always break out again without any external Cause, and obstinately refuses to be conquer'd by all Remedies which never fail of curing Ulcers of another Kind.

554. And also why a Caries, from an external Cause, is easily cured ; that from an internal, difficultly ; from the Great Pox, more difficultly ; and that from a *Spina Ventosa*, the most difficult of all.

555. Lastly, why a Caries in the solid Part of the Bone be bad ; worse in the spongious Part, and the worst in the Joints ; why the first be slow, and the next quicker, and the last the quickest of all ; why the same gains quick in Children, and is so difficult to cure ; and why the *Spina Ventosa* doth most times shew itself

itself in several Places at once, or successively ;
“ As I have known in a worthy Minister of
“ the Protestant Church of *Rochel*, who, since
“ his being a Refugee at *Leyden*, lost both his
“ Arms successively.”

556. Whoever adds to these (from 512, to
556.) what has been said of Contusions (from
249, to 257, and 325.), and of Luxations (from
358, to 370.), and of Fractures (from 339, to
358.) and also what has been said of the Wounds
in the Head where the Bone was offended (from
249, to 297.), he may safely think he possesseth
the whole History of the Diseases incident to
Bones, and almost all the Methods to cure them ;
chiefly, if we add to them, what may be said
of the *Ankylosis*, which is an Immoveableness
of the Joint with a hard Tumour, owing its
Origin chiefly to the Callus of a Bone broke
near the Joint, or to the thicken'd Liniment of
Havers, or to the shrinking of the Ligaments
or Tendons, or a Protuberancy near the Joints.
The Cure whereof is very difficult, and requireth
different Applications, according to the Differ-
ence of the Cause.

557. Whoever therefore has understood all
the Diseases hitherto described, and has been
an Eye-witness of 'em, so as to have well and
duly weigh'd the Causes of 'em, their Nature,
Effects, and Cure ; and hath afterwards applied
all these to the internal and hidden Parts of
the Body, compar'd them with the Action of
the entire and whole Parts, and at last with the

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Phænomena of internal Diseases ; *He* will find that the internal Operations agree exactly with what he has seen in the external Parts : That therefore a System of Physick ought to begin with the Chirurgical Diseases ; and that no other Method can lead so well to the plain and easy Knowledge of Truth in Matters of Physick.



OF



O F
INTERNAL DISEASES ;
A N D
Of FEVERS in General.

558.  ND now is the most natural Time to treat of all *Fever*s, as they are the common Distemper, an inseparable Companion of Inflammations ; the Causes of a great many Diseases, of Death, and often the most effectual Means to cure some other Diseases.

559. And whereas it is a most common received Notion, that its Nature is hid and unconceivable ; we ought with all our Prudence to avoid falling into any Error in the Search after it.

560. And yet it is very easy to be mistaken herein, because of the many and various Symptoms, which usually attend a Fever ; and without which, notwithstanding, the same may exist, and continue.

561. To avoid Error therefore, it will be necessary to chuse from innumerable Symptoms
(560.)

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(560.) those only which are always present in all Fevers, and whose Presence perceiv'd, makes the Physician sensible that there is actually a Fever, and whose Absence does inform him again, that his Patient is free from all Fever.

562. Then, from the Discovery and due Consideration of these (561.) the individual and specifick Nature of a Fever is to be found out and known.

563. In every Fever, produced by an internal Cause, there are to be observed at some Time, and in some Degree, a Shivering, a quick Pulse, and a Heat.

564. The Fever in which these three Phænomena (563.) are quickly run off with Danger, is call'd an *acute Fever*.

565. Where they do run off slowly, either with or without endangering the Patient, that Fever is call'd a *slow one*.

566. Both of 'em (564, 465.) may either be epidemical or common to the Generality of People at a certain Time, or only particular to this or that Man.

567. Diseases which a Fever (in 564.) doth accompany, are call'd *acute febrile Distempers*: Those that have that (of 565.) are call'd *chronical*.

568. So that the Nature of a Fever in general ought to be known, before one treats of them in particular.

569. Which Knowledge must be taken from the thorough Consideration of the three common Symptoms (in 563.)

570. Which

570. Which are present in all Fevers ; but of the three, there is only the quick Pulse, which is always present from the Beginning to the End ; so that the Physician may, from that one Phænomenon alone, when present, conclude there is a Fever.

571. Therefore whatever the Physician doth thus know of Fevers, may be known altogether as well from the only one Symptom of the quick Beatings of the Pulse.

572. So that the proximate or nearest Cause of this Quickness (571.) is also the nearest Cause of a Fever hereby discovered.

573. That is, a quicker than the natural Contraction of the Heart ;

574. Consequently, a too quick, reciprocal Influx of the nervous Juice, and that of the Cerebellum into the Muscles and the Ventricles of the Heart.

575. Almost every Fever, that has hitherto been taken notice of, and proceeded from an internal Cause, begins first with a Sense of Coldness, Shaking, Shivering, greater or less, longer or shorter, inwardly or outwardly apparent, according to the different Temper of the Patient, or the various Cause of the Fever itself.

576. At which time the Pulse is quick, small, and often intermitting ; the Extremities are often pale, cold, stiff, trembling, and void of Feeling.

577. Whence it appears, that then the bloody Humours do stagnate at the Ends of the capillary Vessels, and that there is notwithstanding

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at the same time some Cause, that irritates the Heart (574.)

578. Whence (477.) the Cause of all the then present Phænomena (575, 576.) is understood.

579. In all Fevers, after the Symptoms of (575, 576.), there ariseth a Heat, which is greater or less, of a long or short Duration, internal or external, general all over the Body, or particular in some part, according to the Variety and Difference of Fevers.

580. Which Heat (579.) as it follows the pre-existent Fever, ought rather to be taken for its Effect, than for its Cause, or Nature.

581. So that the too quick Contraction of the Heart, with an increased Resistance at the End of the capillary Vessels, is sufficient to compleat in us the Idea of all acute Fevers.

582. And either of these two (581.) may be occasioned in a living Animal, by Causes infinite in Number and Variety ; and they may happen both at once, or singly ; and when the one is produced, the other soon follows.

583. So that the nearest Cause of a Fever (581.) acknowledges numberless Causes for its nearest.

584. Which however are divided, as they are either singular to each, or universal and common to many ; which at last are generally owing to the same Air, Diet, and Way of Living.

585. So that the Causes of Fevers are singular, or epidemical.

586. The

586. The nearer singular Causes may be reduced under some Heads. α . The Things received or conveyed into the Body being sharp and pricking, whether called Meat, Drink Medicines, Preservatives, or Poison, when endow'd with that Propriety that they cannot be digested, moved, nor evacuated ; or when taken to such a Quantity as to irritate the Stomach, to choak up, to obstruct, and to putrefy within the Body. β . The Things retained in the Body, which used to be evacuated each their proper Way, and that because of some Cold, Unctious, Vapours, some thick and fat Meat, Drink, Medicines, Poisons, or Air ; too long-continued Rest, some usual Exercise omitted, Obstructions and Compressions from either the contain'd or surrounding Bodies. γ . The Actions ; such as the too great Disturbances of the Mind or Body, occasioning Heat and Tossings. δ . External, sharp, pungent, gnawing, tearing, burning, or inflaming Applications. ϵ . Those that change the Humours and their Motions much, which many Externals, as well as Internals, will do ; Hunger, great Evacuations, Collections of Pus, Water, and watry Blood, in Dropsies and Empyema's, or sharp Serum, inflamed and burnt Choler ; Suppurations, Gangrenes, Cancers, too much Waking, too intense Studies of any kind, and Excess of Venery.

587. The Effects of a Fever, are, a too quick Expulsion and Propulsion of the Liquors ; too great an Agitation of the stagnating ones, and a Mixture of all ; an overcoming of what resists,

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fists, and its Coction ; a Secretion of the concocted Matter, and a critical Evacuation of what has occasioned the Fever by its Coagulum and Irritation ; a Change of the sound Liquors into a diseased State ; a Change of the sound Parts into a Condition able to bear many things which the Patient was not used to before ; an Expression of the most liquid and thin Juices ; a Thickening of the Remainder ; a Drought, Heat, Pain, Anxiety, Weakness, Weariness, Heaviness, Loss of Appetite, and Nauseousness.

588. The sooner the stagnating Liquids are to be resolv'd (577.), and the Irritation allay'd (574.), so much the slighter and shorter will be the Fever, and the sooner tending to Health ; and so on the contrary : And the Fever will also vary, according to the different Degrees and Concourse of both.

589. And thence one may learn, that a Fever may often be a Medicine very instrumental in the Cure of other Diseases ; such as the Palsey, &c.

590. Hence the Beginnings, the Increase, full Height ; the Declension, Crisis, Changes, and Cure of Fevers, are various in the very acute ones, and even in the singular Kind.

591. A Fever terminates in Death, another Disease, or into Health.

592. In Death, occasion'd by the Destruction of the solid Parts by too great Violence ; or by that Degree of Corruption in the Liquids, which obstructs the Vitals, or those Parts thro' which

which new Liquids must needs pass, to supply the Room of the wasted. Hence Inflammations, Suppurations, febral Gangrenes in the vital Bowels, the Heart, Lungs, Cerebellum : or aphthous Ulcers in the Stomach and Guts ; which, by shutting up the lacteal Vessels, so as not to admit of either Nourishments or Medicines for a considerable Time, must needs prove mortal.

593. *In another Distemper*, as the same doth hurt the Vessels through too great an Agitation, and, by dissipating the thinnest Liquids, thickens the rest ; or as it is not able to resolve entirely what it has first occasioned to coagulate ; or by depositing its critical Matter in some obstructed, dilated, or broken Vessels : Hence the red and scarlet Spots, Pustules, St. Anthony's Fires, Measles, Small-Pox, Phlegmons, Bubo's, Swellings behind the Ears, Imposthumes, Gangrenes, Sphaceles, schirrous Tumours, &c.

594. *Into Health.* 1. Whenever it overcomes with its own Power, the material Cause of the Fever doth break it, makes it moveable, drives it out by insensible Perspiration, and at the same time lays asleep its own Violence, by re-establishing an equal Circulation of all the Liquids. This is the Method of Resolution, which is very near the same in a Distemper of the Whole, as it was shewn in a Disease of a particular Part. (See 386.) 2. Or if the Matter of the same Disease, being overcome by the Power of the very Fever, be loosen'd, and render'd moveable, yet has retain'd one particular Quality,

Quality, which will hinder an equal Circulation, and yet stimulates and irritates the Vessels, and is, for that reason, drove out by some sensible Evacuation which it occasions ; such as Sweat, Spitting, Vomitings, Diarrhoea's, and Urine, after the Coction and Height of the Fever, when the Crisis is compleated almost within the fourteen Days.

595. Lastly, A Fever terminates into Health, if the Matter of its Cause, being overcome by the Strength of the Fever, loosen'd; made moveable, and made again like unto the sound Liquids, flows without any Crisis; or any other succeeding Distemper.

596. The Genius; Danger, and Duration of an acute Fever; if well taken Notice of from its Beginning, increasing until the Height, will instruct the Physician how the same will go off, change, and terminate.

597. So that from all these (from 558, to 597.) the general Heads of the Diagnostic and Prognostic in Fevers may easily be drawn.

598. The Method to cure a Fever in general, is to be learn'd from these Rules : 1. Chief Care must be taken to preserve Life, and vital Strength. 2. The sharp, irritating Cause must be amended, and expell'd (574.) 3. The tough, sluggish Humours must be dissolv'd, and expell'd (577.) 4. The Symptoms must be mitigated 587.

599. Life and vital Strength is preserved by a fluid Diet of such as are easily digested, are contrary to Putrefaction, and to Thirst ; as are

apt to uphold or increase the Appetite, and in all respects are contrary to the known Cause of the Disease.

600. Nourishment ought to be given when the Fever is either off, or when it remits and is least violent.

601. And then in moderate Quantities, but the oftener repeated, that the Bowels may not be put to too much Labour, or be thereby altered.

602. The Quantity to be given, and their Degree of Strength, is determined, 1. By the Fore-knowledge of the Fever's short or long Duration (588, to 590, 596, 597.), whether 1, 4, 7, 9, 11, 14, 21, 30, 40, 60 Days : For so much ought to be given, as will suffice to carry the Patient through not only the Coction, but also the Crisis. The shorter the Disease is like to be, so much the less in Quantity, and weaker in Quality, ought to be given ; and so on the contrary. 2. From the known Age of the Patient ; for all Animals bear Hunger the least, as they are nearer their Birth, or very old Age. 3. If the State and Violence of the Disease are known, different Diet, as to Quantity and Quality, ought to be allowed : in the Height, give the least and the lightest Food ; at the Increase or Decrease, give so much the more, and so much more nourishing, as you are distant from the Height of the Disease. 4. From the Country as the Patient is of, or which he actually inhabits ; for those nearer the Equinoctial Line, bear much easier a spare and thin Diet,

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than those nearer the Poles, whether North or South. 5. From the Season of the Year; for the Summer requireth very thin, but the Winter more substantial Food. 6. From the Custom of the Patient, and his natural Constitution; for he who in Health has been used to high Living, and a very nourishing rich Diet, and bore it well, the same, when ill, has occasion for more Food than another Man, because his Vessels and Bowels are used thereto. 7. From the living easy or heavy; agreeing or disagreeing of the Things given to the Patient.

603. Sharp, irritating Bodies, when known to be outwardly adherent to the Body, (such as the acute Fragments of Glass, of Metals, Wood, Stone, or Bones, or the Applications of stimulating, redning, gnawing, blistering, caustic, putrefying, or poisoned Bodies) are to be removed forthwith; then the Place where they were affixed, and which has received Damage thereby, ought to be fomented with soft, mucilaginous, kind, oily, anodyne and opening Medicines.

604. An irritating Sharpness being within the Body (such as is all Acrimony from a sharp and stagnating Lympha, Pus, or Ichor, producing Inflammations, Suppurations, Gangrenes, Sphacelæ, Cancers, and Rottenness in the Bones) ought either to be removed or to be corrected, according to the Rules heretofore laid down in the History of those several Diseases.

605. An irritating Acrimony brought and mixed in the very Liquids, may and must be either removed or corrected by the Use of the

six Non-naturals, using different Means, according to the different Nature of the said Acrimony.

1. What came from too much Motion, requireth Rest of the Body and Mind, and to be corrected with moistening, diluting, and kind, softening Medicines and Diet.
2. That which was occasioned by the too great Heat of the Air, is cured by temperating the same with cold Springs, some certain Plants fit for this Purpose; giving the Patient Water somewhat acid and impregnate with Nitre, together with a little Mixture of tart Wine; nourish Meat gently softning, a little saltish, and Medicaments of the same Clas.
3. That from too moist an Air, is corrected by making large Fires with aromatic and resinous Wood, and Exhalations and Fumigations of aromatic Herbs and Plants. In our Climates we must be content with Rue, Rosemary, Wormwood, Lavender, and the like.
4. That from a sharp and putrefying Air, is mended by firing Gun-powder, Nitre, Steam of Vinegar, and strewing common Salt upon live Coals.
5. That from Affections of the Mind, by quieting the same by Reasoning or Perswasions, by raising contrary Passions, offering different and various Objects, by Anodynes and Opiates.
6. That from acid,sharp Meats, by diluting that Sharpnes, affwaging, absforbing, and changing it into a compound Salt: This is also effected by the continued Use of watry Eatables;

ables : Jellies of animal Juices, oleous and cretaceous Food, all sorts of Cockle and Shell-fish, Stones of Animals, fat Earths, alcaline fixed Salts, volatile, simple, and compound. (See from 60, to 69.)

7. That from sharp, salt Meats, by diluting that Acrimony with watry Roots and Herbs, and evacuating them at the same time, softening with smooth and oleous Food, and correcting them with lixivious Broths, or Decoctions of Quick-lime.
8. That from sharp, aromatic, and hot Meats, by diluting, correcting with Acids, resolving and cleansing with acid and soapy Medicines, and softening with mild Jellies. And whereas the alcalious Acrimony belongs to this Class, it is easy to adapt the Rule to them.
9. That from Meats taken of the most easily putrefying Parts and Kind of Animals, is removed by those described from (76, to 91.)
10. That proceeding from an Over-eating, by which the Stomach is ty'd up, is removed by diluting them with large Quantities of warm Water, Fasting, Vomiting, or Purging.
11. That from stale, fermented, or yet fermenting new Drink, acid, oleous, aromatic, distill'd, or in its natural simple State ; that Acrimony, I say, once convey'd into the Blood, is removed by the same Remedies that are set down in the Numbers 5, 6, 8. of this *Aphor.*
12. That from too much Waking, is cured by the same, as in N° 1, 2, 3. of this *Aphor.*

13. If an alcalious, an acid, oleous, or putrefy'd asponaceous Acrimony is occasioned by the retaining of Excrements in the Body ; those ought to be made to flow : The Ways are to be made slippery for them ; the Emissaries to be open'd, the expelling Faculties to be stimulated, and increased ; all which must be done both by external and by internal Means.

606. The Outlets or Emissaries are opened, by loosening what was sticking fast, relaxing the obstructed Vessels ; which is accomplished by Bathings, Fomentations, Rubbings, shaving off the Hairs, and cleansing of the Skin. (See from 107, to 144.)

607. That which stagnates at the Extremities of the conic Vessels, from the two great Quantity of Blood, by which the Vessels are press'd on their Outsides, is made to flow and circulate again by Means of opening a large Vein : This is known from the Signs of a Plethora (in 106, and 107.)

608. Whatever sticks at the Ends of the capillary Vessels, because of the Contraction of their Fibres by a cramp or convulsive Motion, and hence made narrower, is loosened by relaxing the Fibres, (see 53, to 55) ; and by carrying off the Sharpness which occasions that Contraction, (see 35, 36, 54, 66, 67, 88, 102, to 105, 127, 128.) ; whence you may borrow all that is necessary here.

609. That which sticks because of its own natural Sliminess and Sluggishnes, may be loosen'd many Ways ; chiefly by moderating the

ables : Jellies of animal Juices, oleous and cretaceous Food, all sorts of Cockle and Shell-fish, Stones of Animals, fat Earths, alcaline fixed Salts, volatile, simple, and compound. (See from 60, to 69.)

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Strength of the Fever thus, that it may be able to dissolve that Coagulum (587, 589, 593, 594.) And therefore it is requisite that its Violence be thus tempered ; $\alpha.$ That the same may not produce Inflammations, Imposthumes, Gangrenes, or Sphaceles (592.) ; the Danger of which to be at hand, is learn'd from the Vehemence of the Symptoms, chiefly of Heat, compared with the resisting Power of the Vessels. $\beta.$ That the Liquids may not be diffipated by too much Motion ; which is foretold by the Dryness of the Nostrils, Eyes, Throat, and Tongue ; by a Hoarseness, dry Skin, Paucity of Urine, a small, quick, and unequal Pulse. $\gamma.$ Nor that the Motion be too much abated before the Coction of the febrile Matter, which would disable the Blood from overcoming, moving, separating, and driving out the Matter of the Disease : That there is Danger of this, is known from the vital Actions becoming altogether languid, without the apparent Signs of a Coction.

610. If then the Motion is perceiv'd to be exorbitant (101.) it is moderated by Abstinence, thin Diet, drinking of Water, a cool Air, quieting the Mind, Bleeding, cooling Glysters ; by soft, watry, glutinous, cooling, anodyne, and opiate Medicines. (See 92, to 106.)

611. If the Motion be too slow, it may be quickened by the Help of cordial Meat, and drinking of Wine ; by a warmer Air, by raising the Passions of the Mind ; by stimulating Medicines, such as are volatile, aroniatic, and fermented ;

mented; by Frictions, Heat, muscular Motion, Bathings, and Fomentations.

612. After the first Remedy in (609.) which removes the Viscidity, the next is to restore to the Vessel its Elasticity, which is obtain'd by lessening the Quantity of the Liquid, by letting a great Quantity of Blood flow quickly out of a large Orifice, made in a great Vein; and afterwards, or even then, increasing the Motion by stimulating Means.

613. Thirdly, That same Viscidity is made fluid by diluting it with Drink, Bathing, Fomenting, Glysters, and watry Means, and by Frictions at the same time.

614. This will be the better accomplished, if the Patient takes the watry and salt Means as hot as he can drink 'em; or the bitter, aromatic, milky Herbs cold.

615. Which (613, 614.), that they may well, quickly, safely, and powerfully act, a Bleeding ought to be premis'd; for it makes Way for them; they mix and act the better after it.

616. At the same time as this Viscosity is resolved by the Means from (609, to 615.), it may be push'd and drove out by the same, continued, or even increased: but this will sometimes be corrected so entirely, as not to want expelling (594. No. 1.) The Symptoms of a SINGULAR ACUTE FEVER, are chiefly these: A Coldness, Shaking, Anxiety, Thirst, Nauseousness, Belching, Vomiting, Weakness, Heat, Tossing, Dyness of the Skin, &c. Delirium, Dozing, ob-

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stinate Wakefulness, Convulsions, Sweats, Loose-
ness, and inflammatory Pustules.

618. All which, arising from the Fever (581,
587.) as its Cause, if the same be removed
(594, 595, 598, to 617.) they will cease of
Course; and therefore if they can be bore
without endangering Life, they scarce require
a particular Cure.

619. And even sometimes they proceed from
an Effort of Life, disposing itself for a Crisis,
or an Evacuation of the critical Matter; which
Excretion they precede, accompany, and follow,
and ought not to be interrupted.

620. But if the same come out of Time;
if too violent to be overcome or bore by the
vital Strength or Patience of the Patient, or are
like to produce some greater Ills; then ought
each of 'em to be allay'd by their proper Means,
having always an Eye to the Cause (586.) and
the State of the principal Disease, THE FEVER
(590.)

Of the Cold Fit in Fevers.

621. The Cold which happens in the Be-
ginning of acute Fevers, supposeth a less Attri-
tion of the Liquors against each other, and their
Vessels; the lessening of the circular Motion;
a Stagnation of the Liquids at the Extremities;
a less Contraction of the Heart, a less Quantity
of Blood forced out of it; and the animal Spi-
rits flowing less from the Cerebellum to it.

622. It occasions, if continued long in a great
Degree, polypous Concretions in the larger Ves-
sels,

fels, and about the Heart; and in the lesser Vef-
fels, by emptying their Liquids, produces Evacu-
ations; whence great and many Evils in both.

623. Hence it is evident what it denotes,
and doth foretel; and why the Fever is more
dangerous, in Proportion as the cold Fit has been
violent; why, in the Beginning of a pestilen-
tial Fever, the cold Fit is in the greatest De-
gree of Violence; and, on the contrary, the
Heat is as violent, when the same is farther
advanced.

624. This Cold, when attempted to be re-
moved by any kind of stimulating Means, under
whatsoever Title or Denomination, though of
the most powerful Kind, yet has often produced
an insuperable and incurable Inflammation. So
that, in this Case, all saline, sharp, aromatic,
oleous, blistering, and such-like Remedies, ought
to be avoided.

625. But it is best cured by drinking hot
Water with some Nitre, Honey, and Wine;
by the using of Bath, Steams, Fomentations,
and Lotions with hot Water, and by moderate
and continued Frictions.

626. Which being immediately applied, upon
the first Invasion of the cold Fit, have often
cured at once most dangerous and acute Dis-
eases (622.) “The cold Fit mentioned here,
“ wherewith most all acute and inflammatory
“ Fevers begin, and to be distinguished from
“ the cold Fit of Agues, or intermitting Fevers;
“ for, in case of the latter, what is here, and
“ in the foregoing Aphorisms, condemn’d, is
“ the

" the surest Method to prevent the cold Fit,
 " and will most certainly succeed, if, at a
 " due Distance before its Invasion, a Vomit
 " has been given ; which you find confirmed
 " by our Author hereafter, *viz.* (758, 759,
 " 760.)"

Of febrile Shaking.

627. The Shaking, supposeth a Wavering of the Muscles between their Tone and their Laxness ; Causes now extending, and soon after loosening them ; and these Motions succeeding each other shortly upon one another, without the Will of the Patient, and even against his Will ; the Influx of the arterial and nervous Juices sometimes absent, sometimes present ; and consequently argues, in the Beginning of the Disease, a Rest of both those Liquids : towards the End, often too long an Absence of the same, after an extravagant Expece of the one, or both.

628. If long continued, it occasions Impediments in the Circulation of Humours, and the Defects thence proceeding.

629. Hence must the Diagnostic and Prognostic of this Symptom be fetch'd ; and hence it is apparent why Shaking and Cold go together (621.) ; why a violent Shaking is so pernicious ; why great Passions of the Mind occasion Shaking ; why great Tremors about the Approach of Death ; why from too large Evacuations of any kind ; why from an Excess of drinking any sort of Liquors.

630. The

630. The same is cured, by restoring the equal Flowing and Pressure of the arterial Liquor in the Arteries of the cerebellous (that is, nervous) Liquor into the Fibres of the Nerves: This ought chiefly to be endeavour'd in the Beginning of the Disease, by the Use of such Things as do cut and attenuate the sluggish Humours, and restore Strength (606, to 617.) But towards the End of the Disease, by Means of such as suddenly restore and supply the lost Liquids, and corroborate the Fibres and the Bowels, see from (46, to 49.)

Of the Anguish in Fevers.

631. This Anguish is occasion'd by the Blood being stopp'd in the very Heart, and consequently hinder'd from passing through the Lungs or the Aorta: whence a Cramp of the contracted Vessels, or an Impossibility to the inflamed Matter of passing through them: We have seen the same Effect from the Blood being hinder'd in its Passage through the *Vena Portarum* in the Liver, by the same Causes; whence, when all the venous Blood, brought hither by the cœliac and mesenteric Arteries, cannot return, but stagnates, it extends the Vessels, resists the approaching Blood covey'd through the Arteries, and consequently produces all the Evils bred and deducible from those Causes: it is apparent, that both these Causes of Anguish, in all acute Diseases, ought to be observ'd very diligently, and with all possible Sagacity, and well cured as soon as possible.

632. If

632. If therefore such (631.) an Anguish continues long, it must needs produce about and near the Vitals polypous Concretions, Inflammations, sudden Gangrenes, with an intolerable Sense of Narrowness, and Death soon thereupon succeeding : but if the Seat of the Anguish is in the Hypochondria, then doth it create a most exquisite Sense of Sicknes and Pain at the Stomach, while the other Bowels are less sensible of Pain ; then sudden Putrefactions of the Blood in those large Vessels of the Liver, which have a less Elasticity and contracting Power than those of other Parts ; whence Gangrenes, a Rottenness of the Liver, and from that same a mortal Bloody-Flux.

633. Hence the Physician may exactly know the Nature, Cause, and Event of this Anguish (631, 632.), and at the same time will distinguish an Anguish occasioned only by a Disorder upon the Nerves, without a preceding Fever from that which owes its Origin to an acute Inflammation, which then has shewn itself by its proper and peculiar Signs ; and thence comparing these with the Violence, Duration, and Seat of this Evil, he'll be able to form a true Judgment of 'em all : As, why *Anguish*, almost in all Diseases, doth perform the last Part of the Tragedy just upon the Point of Death ; why the nervous Anguish has little of Danger, but the inflammatory is extremely dangerous ; why Restlessness, Tossings, Sighing, Panting for Breath, and constant Wakefulness, are the Fore-runners and Fore-tellers of Death, in most inflammatory and imposthumating Diseases.

634. Hence

634. Hence also it appears, what different Means are requisite to allay the Violence of this Evil, which however are all known, and usually applied, as soon as the Nature of this Symptom is known. For when it is plainly discovered that it is a nervous Case, the Cause is removed by softening the irritating Sharpness (603, 604, 605.), expelling the same with Vomits, Purges, Sweats, Diureticks, Absterfives; diluting the same with warm and watry Means; quieting the Passion of the Mind; relaxing the Fibres, Vessels, Bowels (35, 36, 54, 55.); restraining the Power of the nervous Juice, with Anodynes and Narcoticks. But if the same proceeded from an inflammatory Toughness, that ought to be resolved, diluted; the Vessels to be loosened, the Violence of the flowing vital Liquid to be bridled; this End may be answered, by giving the Patient large Draughts of warm Water with Honey, Oatmeal, Nitre, Juice of Oranges, or Limons, with a small Proportion of the moderate Spices; by Fots's, Cataplasms, Epithema's, Plasters applied to the affected Part, made of Diluents, Loosening, Emollient, and Anodynes; by Glysters often, but at the same time given in small Quantities, and kept as long as possible, made of the just now mentioned; by Steams of hot Water with some emollient Ingredients in it, directed so as to let the Patient receive the same by his Nose and Mouth, and thence towards the Lungs.

635. And, indeed, if any-where, here doth the Violence of the Evil require a speedy and safe Cure. *Of*

Of Thirst in Fevers.

636. Thirst owns for its Causes a Drynes of the Liquids, and their Inability to flow ; a salt, alcaline, or a bilious and oleous Acrimony.

637. So that the same generally argueth the Presence of one of them mentioned in (633.)

638. And consequently is an Index that those Evils are coming on, which may be produced from the Causes said to be existent in this Case. (See 636, 637.)

639. So that the same always requireth present Remedies, chiefly in acute Diseases.

640. The same are, 1. Drinking of thin, watry, fourish, nitrous, softening Liquors, and those warm, often repeated, but in small Quantities. 2. Fomenting the Nostrils, Mouth, Throat, with the like Liquids ; washing and gargarizing also. 3. Laying about the Hypochondria Cataplaſms, Fotus's, and other outward Applications of the like Matters. 4. Injecting Glyſters, and causing them to be retain'd long, and made of Things of the like Kind.

641. But if the Patient is at the same time very droughthy, and very weak, then ought winey and spirituous Liquors to be mixed with the latter (640.), and then also are Cordial-Juleps given with a great deal of Success and Safety.

Of Loathings in Fevers.

642. A Loathing, infers vain Reachings to Vomit, with a Sense of Dread ; its nearest Cause is therefore a slight Convulsion of the muscular Fibres

Fibres of the Jaws, the Gullet, the Stomach, Intestines, and abdominal Muscles : which is occasion'd, 1^o. By a sharp, putrid, bilious Matter derived into the empty Stomach, rising towards the Jaws, pricking and twitching both, whence the other Parts follow the same Motion ; it's known by Fasting, a strong, stinking Breath, Foulness of the Mouth, Tongue, and Jaws : Or, 2^o. Is produced by a sluggish, viscid, and floating Matter, which, by watering those Parts, doth also twitch 'em, and is discern'd by the Signs of a glutinous Disposition of the Liquids precedent (69, to 75.) : Or, 3^o. By a slight Inflammation of the Stomach, Gullet, Intestines, and neighbouring Entrails ; which is discerned by its peculiar Signs. 4. By the Remembrance of Things which formerly, when taken, used to occasion the like Loathings. 5^o. Lastly, By the inordinate Motion of the nervous Juice, no matter whence arising ; it's known by a Delirium, Convulsions or Catchings, Vertigo's, and Tremors.

643. If it continues long, it occasions Loss of Appetite, an Abstinence and Aversion from Drinking, and Medicines, afterwards Vomitings, and a great many Evils which follow from those ; whose chief are, a Weakness, a putrid, alcaline Acrimony, and Drought.

644. The Loathing produced by the first Causes (645. No 1.) is amended by using acid, salt, watry Drink, Food, and Medicines ; by giving gentle, cooling Purges, such as *Acton*, *Epsom*, or *Shooters-Hill* Waters, with the purging Salts ; by such acid and austere Medicines, &c. as do strengthen

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strengthen the Fibres ; or even a Vomit, if it cannot be overcome with the others. But such Loathings as are occasion'd by the second Cause (642. No. 2.) are carried off with diluting, attenuating, purging, or vomiting Medicines. And, if proceeding from the third Kind of Causes (in 642. No. 3.) they will not be removed, unless those Diseases be cured according to the Method following. The fourth Sort is cured, by not thinking on the Occasion, or avoiding the like Things that did occasion them. And the last Sort is cured with austere, earthy, astringent Medicines, Rest, Narcoticks, and cold Water.

645. Hence it is understood, why, in acute Fevers with Loathings, a Purge or a Vomit given in the Beginning of the Illness, be of so great Efficacy ; and in what Sort of acute Fevers it will answer ; why People, that have already struggled with acute Fevers, have so great an Aversion to Fat, to Flesh, Eggs, Fish ; and, on the contrary, do covet Water, sour or tart Things, Summer Fruits, and cold Things ; why Medicines are of no Service to the Patient, unless you have first removed these Loathings, and their Occasion ; why this Symptom be often incurable ; why, sometimes, these Distempers go off, and are succeeded immediately with a sudden, unusual, and wonderful Appetite.

Of Belchings and Winds.

646. Belchings owe their Birth to an elastic Matter ; which, by the Heat, Eftervescence, and Ferment-

Fermentation is made able to swell and dilate, which in one Moment is retain'd, and in the next having loosen'd or broke its Prison, is push'd out with a Sound and impetuous Noise.

647. So that the Air, Salts of an opposite Nature, Summer Fruits, putrefying Humours, and such of the vegetable Kind as are apt to ferment, supply the Matter for Belches and Winds, whereof the Noise and Stench doth differ according to the different Nature of its Producer.

648. Nor will all these (647.) occasion any noisy Sound, if they have a free Passage to exhale at ; whence it appears, that the Contractions of the Sphincters of the Gullet, Stomach, the superior and inferior Orifice of the Stomach, and of the Intestines, do always meet together, and are again loosen'd together ; whence Belches, Winds, Farts, and the Frog-like Croakings of the Guts.

649. If these two Causes (of 647, and 648.) meet, they act powerfully and lastingly ; for then the elastick Matter (dilated by its own Heat, Motion and Strength, and besides detain'd in a Cavity, whose Fibres are contracted by Convulsions) doth dilate, stretch, and pain the surrounding Membranes, compressing and squeezing also the adjacent Parts, whence arise intolerable Pain and Anguish, which cease instantly upon the letting out of the Winds ; (see 220, to 227 ; and 631, to 634.) ; and if a Fever goes along with this, there ensue most inexpres-sible Torments.

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650. The Cure of this Evil is effected, 1. By carrying off the Matter (647.) with Diluters; warm dissipating Waters gently aromatic; such as break the Balance of the Salts to a requisite Overplus; such as correct Putrefaction, and do subdue or lessen Fermentation. 2. By such as allay Convulsions, soften Acrimonies, refrain the Motion of the Spirits whereof the chief are, Opium, and gentle Anti-hystericks. 3. By Glysters, Fomentations; hot, loosening, anodyne, and gently-aromatic outward Applications, and with dry Cupping-glasses upon the Belly, without Scarifying.

651. From these (646, to 651.) Answers are ready to the following Queries, otherwise pretty obscure: Which Aliments, Drink, Poisons, and Medicines are flatulent? Why chiefly so, when the Stomach and the large first Bowels are empty? Why they produce 'em when those are wounded? Why when the Abdomen is closely tied up by inward or external Causes? Why hypochondriac, hysterick, convuls'd, and colicky People are much afflicted with Wind?

Of Vomitings in Fevers.

652. Vomiting, which at first is a violent Expulsion and throwing up of the Contents of the Stomach, and afterwards also of the Guts, and, lastly, of the Bowels emptying themselves into the latter, acknowledgeth for its nearest Cause a Convulsion of the muscular Fibres of the Jaws, Gullet, Stomach, Intestines, Diaphragm, and of the abdominal Muscles; and for

for its remoter Cause, whatever doth stimulate the described Fibres by irritating them, or those Bowels which are easily convuls'd.

653. So that it sometimes happens, by the Defect of the Stomach which is convuls'd, inflamed, imposthumated, scirrrous, and cartilaginous, together with an acute Fever ; it is obstinate, and of a long Duration, and it may be known when the Causes are such ; nor is it cured but by the Removal of them, of which hereafter.

654. By the Defect of the Bowels, and the surrounding Parts affected in the same Manner, and irritated by the distended Stomach full of Aliments, or other Matters ; in which Case a very stubborn Fit of Vomiting will often invade together with a Fever.

655. By all the Causes of very great Loathings (642.), whence it may be known, managed, and cured.

656. If it continues a long Time, it occasions Waatings, iliac Pains, Convulsions, and the Effects of great and stubborn Loathings (643.)

657. If from the Causes (in 653, 655.), the Cure must be fetch'd from the History of those Diseases.

658. If from the Cause (in 642, 655.), then ought the Remedies (of 644.) to be applied without any loss of Time ; chiefly Opiates, and strengthening, drawing outwardly, and dissipating Fomentations incorporated in Lint, or Crumbs of Bread, &c. "The following I have

M 2 " very

" very often experienced to be efficacious:
 " Rx. Theriac Androm. ℥. Ol. Nuc. Muscat.
 " Laud. Liquid. ana gutt. xx. Lanæ Cotonea
 " q.s. ut in forma Boli applicetur ad scrobiculum
 " cordis, superimponendo Emplastrum Stoma-
 " chicum Magistrale."

659. Hence the Reason is plain, why it is so difficult to put a Stop to Vomitings in many acute Fevers; and also the Falshood of that Rule, too generally and unwarily embraced by the Heedless or Ignorant in the Art, *That Vomitings are cured by Vomiting*: why Sudorificks often cure Vomiting, as in the Plague; why Vomitings cease of their own accord after the critical Separation, as in the Small-Pox; why Bleeding doth often stop them in acute inflammatory Fevers; why such as do continually vomit in the Beginning of an acute Fever that is not of the inflammatory Kind, have a critical Looseness at the End, which might have been prevented by giving of a Vomit in the Beginning of the Illness; why it is very bad, in acute Diseases, to bring up every thing as soon as taken. The Hiccough may arise from the same Causes, and be cured with the same Remedies.

Of Weakness in Fevers.

660. The Hindrance of the Influx and Pressure of the nervous Juice into the Muscles, is follow'd by an extreme Weakness.

661. Which Hindrance may proceed from the Emptiness of the Vessels, from the Liquid being spent, or its being unable to flow, from

the

the Obstruction of the Canal, or its being press'd and squeez'd by an outward Cause ; chiefly about its Beginning in the Brain and Cerebellum, and from the Weakness of the Heart.

662. That it is the first Cause, is made evident, from the Symptoms, which are the Consequences of large Evacuations, when they have either preceded, or are actually existing ; such are the long Continuation of the Disease ; Losses of Blood, whether occasioned by the Disease itself, or artificial by the Hand of the Surgeon ; Sweats, a Diabetes, Salivation, Diarrhœa's ; from the Want or Weakness of the Aliments, whether not retained, or not well digested, or not duly assumed by the Lacteals into the Channel of the Blood ; from a Paleness, Leanness, small Pulse, the falling of the Veins and Vessels, and from the flagging and shrivelling of the Muscles.

663. That the glutinous Liquid doth or cannot flow, or is inflamed, may be known from the Signs laid down from (69, to 74.)

664. That the Channels are obstructed, by looking back from (107, to 144.)

665. That the Compression of the Brain and Cerebellum is the Cause of the present Weakness, is known, when at the same time we observe those Functions weakened and damaged ; which we certainly know to depend from their being entire ; that is, when we see the Patient delirious, dozing, trembling, and complaining of a Vertigo and Noise in his Ears, at the same time as we perceive his great Weakness.

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666. But we know the same to be occasioned by an immediate Weakness of the Heart, when we perceive the Signs of a deficient Circulation; (see 106.)

667. Liquid Aliments, of a like Nature with the Blood, digested by Art, gelatinous, soft, from either Animals or Vegetables, winey, and Aromaticks, mixed up according to Art, given often, in small Quantities, with gentle Frictions of the external Parts; all these replenish the most safely and conveniently, chiefly if at the same time Care be taken to let all these be of a contrary Nature to the Disease itself.

668. If the Weakness proceeds from the Liquids being unable to flow (663.), then ought the Remedies of (75.) and from (132, to 137.) to be applied; for no other Means will do in this particular sort of Weakness.

669. As to that occasioned by the Obstruction of the Channels (664.), its Cure is described from (124, to 144.)

670.) But that which proceeds from the Compression of the Cerebrum and Cerebellum (665.) is generally cured by those Means, which being applied to those Parts, do remove whatever, by its sticking fast, did obstruct (124, to 144.), and are able to draw the Shock to other Parts. This is done by moistening the Nostrils, Head, Face, Mouth, and Neck, by gentle Fomentations, and by applying Blisters to the Feet.
N. B. "No able Physician in *England* will
"hesitate one Moment to put Blisters on to the
"Neck, and even on the Head, in this Case be-
"fore

" fore us ; but in *Holland*, and other Countries
" beyond Sea, they have been backwards in at-
" tempting this Remedy : and *Baglivi* has wrote
" a small Treatise about the Use and Abuse of
" Blisters, wherein he accuses them very wrong
" of some ill Effects, which they seldom or
" never do occasion, and which ought no ways
" to come into a Competition with the many
" wonderful Benefits that are reap'd from their
" bold and constant Use in all cephalic, and
" many other Cases."

671. The Weakness from a weaken'd Heart,
is seldom remedied, but by very gentle, and con-
sequently slow Means. And in this Case, those
general Remedies are mostly of Use which are
set down from (667, to 671.)

672. From all these (660, to 672.) it appears
how ill the Generality of People judge com-
monly of the Nature of Cordials, in acute Dis-
eases ; aplying strong, hot Things, promiscuously
in all Cases, and even in such where Evacuations
wou'd prove greater Cordials, than all the fine
Things pour'd down their Throats, whether
brew'd at Home, or at the Apothecaries : And
it is also hence apparent, how Weakness, in
Fever, is very often an insuperable Evil.

Of Heat in Fevers.

673. *Heat* in Fevers, is known outwardly by
the Weather-glaſs, and the Sense or Feeling of
the Patient ; but the inward Heat, from the Red-
ness in the Urine. " This Experiment of the
" Weather-glaſs is made, by bidding the Patient,

" at some Intervals, apply his Hand to the
 " Thermometer containing the Spirits, not the
 " Barometer containing the Mercury, and cu-
 " riously marking every time how much the
 " Spirits have risen in the Glass during an
 " equal Number of Minutes ; minding at the
 " same time, not to increase the Heat of the
 " Room at that very Time. This may be of
 " Use chiefly in inflammatory Fevers."

674. It always argueth a greater Quantity of Fire in that Part which it heats the most.

675. Which oweth its Origin to an usually strong rubbing of the fluid Parts among each other, against the Vessels, and of the Vessels against the Liquids.

676. This Violence ariseth from the great Motion of the Parts push'd forth from the Heart, and from the strong Resistance of the Vessels against the Heart.

677. The great Motion of the Blood, thrust from, and by the Heart, is measured by the Thickness of it, and by its quick or slow running through the Vessels.

678. The Degree of Thicknes, is known by inspecting the same when extravasated, from the past Disipation of the thinnest Part, and from the Hardnes of the Pulse.

679. The Quickness of its Running, is computed from the Number of the Beatings of the Heart, compared with the Greatness of the Pulse Beatings.

680. The Greatnes of Resistance, is known from the Bulk of sluggish Liquors that are to be

be moved ; and from the small Number, Narrowness, or Unmoveableness of the Canals which are to let the said Liquids pass.

681. That the Liquids to be moved are too bulky, is known from the Signs of a Plethora (106.), of a Cacochymy, or of a sudden Solution of those Liquids, which just before were stagnating, as it happens in fat People : but this appears most of all to be the Case, when the Veins are much swell'd, and at the same time the Arteries are quick and full.

682. That but a small Number of Vessels lets through the Liquids, may be concluded from the History of Obstructions (from 107, to 124.) ; or of Wounds (from 145, to 331.)

683. The Narrowness of the Vessels, is understood by seeing, feeling, and knowing the dry Constitution of the Patient, whose Heat increases gently upon the least Increase of Motion.

684. The Unmoveableness of the Channels, unwilling, as it were, to be dilated, is known by all the Signs of the stiff Fibres, Vessels, and Bowels : (see 32, to 34 ; and 50, to 53.)

685. From so many proximate Causes (674, to 685.) doth depend and arise the febrile Heat ; of which again there may be numberless and different more remote Causes.

686. But it may arise from the Increase of only one of those Causes, in which Case the said Increase of Heat keeps Pace with the Increase of its Cause,

687. If,

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687. If, again, two Causes increase together, then will the increased Heat be as the Product of the Increments of those Causes, if multiplied by each other.

688. Which same Computation may take Place as to the rest.

689. Heat increased, doth dissipate the most liquid Parts out of our Blood; that is, the Water, Spirits, Salts, and subtilest Oils; it dries the remaining Mass, thickens it, causes it to run together into an unmoveable, and not resolvable Matter; it freeth the Salts and Oils, attenuates and makes them sharper, exhales and moves them; consequently it wears the smalleſt Vessel out, and breaks them; dries the Fibres, makes them ſtiff and shrivel'd; hence produces ſuddenly many quick, dangerous, and mortal Diseases; which may easily be accounted for, and derived from the first Effect of Heat mentioned here.

690. And from these, may at length well be understood what is requisite to moderate this Heat, and how many various Remedies do hereto belong.

691. If this Heat proceeds only from an increased Quickness, every thing, which lessens that, will be its Remedy: The chief are, a Quiet of Mind and Muscles, letting of Blood, a gentle and ſhort Compression of the Veins, by making Ligatures in the Joints; an inward and outward ſlow and gentle Application or Assumption of cold Things, and Paregoricks uſed very prudently.

692. If it proceeds from a Thickness (678.), that will be remedied by those mentioned in (691.) ; and besides, by drinking of Water and Oxymel, and using such as loosen the Vessels.

693. The Bulk of the Liquids is soon overcome and put in Motion, when from a Plethora, by what is said in the 106th Aphor. at the Letter Ζ. ; when from a Cacochymy, by evacuating slowly and at several times, and by correcting : but the Difficulty is very great, when that Fat has been dissolved, which was stagnating before in fat People ; then are of great Use watry and acid Medicines, with the Mixture of Honey, Yolks of Eggs, Sugars, and withal Evacuations all along, though moderate ones.

694. When Obstructions create Heat (682.), its Cure is learned from the Cure of Obstructions (125, to 144.), and of the Evils coming upon the Loss of some Vessels in Wounds.

695. When from the Narrowness of the Vessels (683.) there is occasion to dilate them by such Means as relax (54.).

696. By which same Means (54.) that Heat is also cured, which proceeds from the too great Stiffness of the Fibres.

697. But whenever an excessive Heat comes from several joint Causes, as often it is necessary to join the several mentioned Remedies (from 600, to 697.) together.

698. From this whole Doctrine of Heat (from 673, to 698.) it may be understood, why a very hot Fever is an acute one, soon determined,

mined, and of a putrid Kind ; and even pestilential, when in its highest Degree of Heat : why the Heat of a Bed, of a close Air, of hot Medicines and Aliments, are so prejudicial in those Fevers ; why a Heat about the Heart and the Sides of the Belly is so injurious, and of an ill Omen.

699. The Origin, Nature, and Effects of Dryness, may also clearly be known from hence, and its Cure may be directed : which is performed by Drinking, Fomenting, Bathing, Glycerists, and Gargarisms of watry, sourish, loosening Liquids, with some Honey, &c.

Of Light-headedness in Fevers.

700. A *Delirium*, is that Production of Idea's which doth not agree with the external Causes, but only is the Effect of the internal Disposition of the Brain, together with a Judgment following from those Idea's, and a Passion of the Mind, according to which the Body moves itself in its several Parts ; and from these increased by Degrees, either single or combined, are created several sorts of Deliria.

701. It supposes therefore always a diseased Affection of the medullar Brain, which may arise from any Obstruction whatever ; the Hindrance of Influx, of the Transflux, and flowing out of nervous Juice thro' the Substance of the Brain ; from a violent quick Motion ; a Stagnation, and a great many other Causes ; which to find out, the Physician ought to use all his Sagacity and Application, in order to obtain a Cure.

702. For

702. For different Medicines, and a different Method must be chosen, according to their Variety and Difference : The chief made use of, (the Choice whereof must be made with Judgment) are, bathing of the Feet, Blisters applied to them, and the Hollow of the Leg under the Knee. " Blistering in those Parts may have a good Effect in some particular Cases ; but I wonder that our Author doth not so much here as mention Blistering in the Neck, or betwixt the Shoulders ; and that he seems to discountenance Blistering on the Head itself, when he recommends, a few Lines lower, Applications of emollient, light, and anodyne Medicines to the Head : These last may be very proper in some Cases also ; but no Physician in *England* can say, but that Blisters upon the Head have often succeeded, when no other Means were sufficient to restore a delirious Patient to his Senses." Frictions of those Parts, repeated diluting Glysters, a thin Diet ; a quieting, diluting Drink, able to remove, or to help to remove Obstructions ; Applications of emollient, light, and anodyne Medicines to the very Head ; Bleeding in the Foot ; and Opening of the hæmorrhoidal Veins ; procuring the Menses to flow, or the Cleansings in Women Brought-to-Bed.

Of Dozings in Fevers.

703. A *Coma*, is a continual Propensity to Sleep in Fevers, sometimes with a real Sleep, and often without it : It always supposes that State

State in the Brain, by which the free Exercise of the Senses and animal Motions is hinder'd; which may arise from a Defect of the nervous Juice derived to the Brain, or from its Circulation through the Brain, or from the Separation of animal Spirits from the Blood into the Nerves being obstructed, or from those Spirits being denied their free Passage to and fro through the Nerves.

704. So that several, different, and often contrary Causes, may produce this Symptom in Fevers; such as all violent and great Evacuations or Repletions; all the too great Thickenings of the Blood, whether by glutinous Fat, or inflammatory Matters and Causes; all that will compress the Brain itself, of whatever Nature it be; which same Causes will produce the same Effects, if they act immediately upon the Nerves themselves.

705. Whence it appears again, that the Physician ought very exactly to enquire into, and find out the particular Cause of this Effect, before he determines with himself what to prescribe, or what to do: For sometimes ought the very contrary Thing to be done, of what has succeeded in seemingly the like Case.
 " Dr. Mirauben has told me, and many People
 " besides, that he had cured a *Coma Febrile*
 " with *Theriaca* and *liquid Laudanum*, the Pa-
 " tient having a quick, but low Pulse, and his
 " Eyes lightly inflamed. As I ought not to
 " doubt of a Fact delivered with so many Cir-
 " cumstances, I must conclude, that this, seem-

"ingly so contrary Method succeeded, because
"the Medicine was given at that Period of
"Time, when it was conducive to the Coction
"of the febrile Matter, when our Author
"observes, that a *Coma* will cease of itself. I
"am the more inclined to take it in that Sense,
"because he forwarded the Crisis afterwards by
"a cordial Julap, with a large Dose of *Antimo-*
"nium *Diaphoreticum.*" And often will a
Coma, after a long and obstinate Continuance,
after all Means have been try'd in vain, go off
at last of itself, when the Coction of the febrile
Matter is perfected.

706. But in general, those Things are proper
here, that were said to be useful in Deliriums
(702.), chiefly Fomentations to the Head and
Neck.

707. But if there be Signs of a great Inflammation,
it ought to be cured as the chief Disease
directs ; of which hereafter.

Of the obstinate Wakefulness in Fevers.

708. The opposite Evil to the foregoing
(703.) is the constant and obstinate Wakefulness,
whence its Nature may easily be understood ; and its Cause is generally the first Beginning
of the slightest Inflammation in the Brain ; which, if increased, generally turns into a Coma, its Opposite.

709. This is cured, by procuring Rest to the Muscles, quieting the Mind ; by removing all Objects from the Sight, and other Senses ; by cooling the Patient moderately ; a moist Air, a soft

soft and emollient Diet ; by soft Whispering, or making a constant, but grateful Noise, imitating the Sound of small Bells. " This puts " me in Mind of the famous Mons. de St. " Euremont, who having try'd all Means in " vain to procure himself Sleep, sent at last for " a French Protestant Minister, whom, a good " many Years before, he had been to hear at " the Savoy, desiring he would repeat the " same Sermon to him that he had heard him " preach then, because he remember'd he slept " most all the while at it. The Minister, " who thought he was to have been the Instru- " ment of converting that Unbeliever to the " Protestant Faith, finding himself mistaken, " went away not much edify'd or pleas'd at " the Joke : " By mealy Medicines that contain cooling Oils, are moistening and softening ; by making the Patient smell to Plants or Flowers that have a narcotick Faculty ; by the Use of Anodynes, Paregoricks, and Opiates, try'd by Degrees ; doing first all things which are able to cure Inflammations, and to prevent its Increase.

Of Convulsions in Fevers.

710. Convulsions, heretofore described (from 230, to 239.) do, in this Case always proceed from a Defect of the Brain, which is either affected by some Matters convey'd thither thro the Nerves (627, 631, to 633, 642, 648, 649 652, to 654.), and thereby twitch'd ; or the proceed from the unruly Arrival, Transflux, and

issuing

issuing forth of the animal Spirits, which may arise from every one of the Causes that are able to create a Delirium, a Coma, an obstinate Wakefulness (701, to 703, 704, to 708.) ; which shews the great Variety of them, and the Necessity of very different Cures.

711. If the same continue long, because of the mutual Intercourse of the Nerves, the Evil soon spreads to the whole System of the Nerves; whence innumerable Ills.

712. If Convulsions follow the Signs of an Inflammation of the Brain, they are almost mortal. The worst Sort is, when the Patient first makes thick Urine, then watry and transparent, which is followed by a Convulsion : If Convulsions come upon great Evacuations in Fevers, they also prove mostly mortal; and also such as happen in a perpetual Delirium.

713. In order for a Cure, the Physician ought first to enquire into the singular Cause (710.), and the Place chiefly affected whence those Convulsions have their birth (710.) ; and then he ought forthwith to apply such Medicines as are able to soften the acrimonious, to resolve the impacted Matter, and to loosen the contracted Parts. So that these Convulsions are generally cured by Diluting, Relaxing, Revulsions, and softening both the Fluids and the Solids : For it would be a Folly to rely here on the Medicines which, by their pompous Titles of *Anti-spaſticks* and *Anti-hystericks*, promise a specific Cure.

714. But if it appears that the Head be chiefly affected, then the Cure is to be directed as in (706.)

Of Sweats in Fevers.

715. Sweats in the Beginning of an acute Fever, whose Cause is more than commonly stubborn, own for their Cause a loose Weakness of the extreme capillary Vessels, a violent Circulation of the Blood, and an easy Separation of the thin watry Part of the Blood from its other Parts.

716. If they continue, they deprive the Blood of its diluting Liquor, thicken the Remainder, and occasion mortal Obstructions; because the Blood afterwards will hardly admit of being either diluted, or resolved: whence may be produced almost all the several Kinds of acute Diseases.

717. They ought therefore always to be stopp'd, and broke off, unless there be much Reason to conclude, that the morbifick Matter is so thin, as to be carried off with the very first Sweating. "N.B. Against this Rule do err
 "almost all Pretenders to Physick; and People
 "who, of their own Accord, do take a Sweat
 "in all Beginnings of great Colds and Fevers;
 "which not only kills Abundance, but renders
 "the Distempers hardly conquerable by the
 "ablest Physicians."

718. Sweats are broke off, by bidding the Patient get out of Bed; by a fitting Posture; lessening the Clothes; letting in a cool Air; abstaining

abstaining from hot or heating Liquors ; drinking a good deal of soft, mild, and coldish Liquor, so as to supply and replenish the Vessels quickly ; and by bridling the too quick Circulation of the Blood and Humours, by the Means assigned from (102, to 106.)

Of a Looseness in Fevers.

719. The Matters which occasion, and are voided in a Diarrhœa, are a Mucus, Lympha, Glew, Pus, watry Blood, and Blood itself, all coming from the Nostrils, Mouth, Jaws, Gullet, Stomach, Liver, Gall-bladder, Pancreas, the Guts themselves, and the Mesentery ; the Causes of their working of themselves off in the Form of this Disease, are such a powerful Force as carry them violently into the Guts, while the contracting Force of the said Guts is much weakened ; or Impediments in the absorbing Vessels of the Guts, such as the Lacteals, hindering the Inlets of some of those Matters through them into the Channel of the Blood.

720. So that it appears, that a Looseness in Fevers is manifold as to its Matter, Cause, Effects, and Consequences, and therefore is often absolutely incurable ; that the colliquative Looseness is very common, but, when come, hardly ever admits of a Cure.

721. If it continues long, it disposes the Bowels of the lower Belly more and more to this Disease ; it weakens, excoriates, inflames them ; and it drains and dries the other Bowels and Vessels. Whence a Want of Nourishment,

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Leanness, Weakness, Bloody-Flux, a Thickening of the Fluids through the whole Habit of the Body, a Laxness of the Solids, a Loss of the Fluids, a pituitous Bloating all over, a Dropfy, and a Consumption.

722. The Cure is performed by softning the irritating Acrimony ; by expelling the same with Vomits, Purges, and Glysters ; by corroborating the lax and loose Vessels and Fibres of the Guts ; by appeasing their violent Motions with Narcoticks ; diverting the peccant, sharp Humour another Way, either towards the urinary Vessels, or to the Pores of the whole Body ; carrying off gently the morbidick Matter, (after having first corrected its first Source, the Stomach, or Duodenum) ; " Which is wonder-
fully well effected by small, but repeated Doses
of Rhubarb, and then with Rhubarb and
Diascordium."

Of Spots or Pustules in Fevers.

723. Inflammatory Pustules have generally for their Matter something, which cannot pass through the least Vessels of the Skin, but is forced to stop there ; and for their Cause, they acknowledge the circulating, secretory, and excretory Power of Life ; so that they are manifold, according to the Difference of those Causes : so that several Fevers take their Names from thence, being called Erysipelatous, Scarlet, Red, Petechial, and Purple, or Morbillous and Variolous, from the Measles and Small-Pox.

724. Of the three last, it is usual to treat separately; but of the three first, the Diagnostic and Prognostic are easily made.

725. The Cure is not very difficult, they seldom requiring any thing but that the Matter be kept moveable and moving; but giving great Quantities of thin Liquors, and causing the Power of Life to be constantly kept in a just Balance; neither too high, so as to raise too much Fever; nor too low, so as to depress the Spirits, and rendring them unable to drive out or resolve the Matter: by which Method the said Pustules or Spots soon vanish, together with the Skin, which peels off, and makes room for a new one grown underneath.

726. The same Symptoms happen here as in other Fevers, and require the same Cure, provided the Physician has still a particular Regard to the main Disease.

727. Hence it appears, what we ought to think about the Variety of acute Fevers; for all such as do carry the febrile Motion, when once raised, to its very End, at one Shock, them we call *continual Fevers*: Such as now and then do relent and renew their Force, without ceasing entirely, them we call *continual remitting Fevers*; and such as do so far relent, as to leave the Patient without any Fever at all between the Fits or Paroxysms, them we call *intermitting Fevers*.

Of continual Fevers.

728. The least Compound of continual Fevers is the Ephemera, *of one Day*; which doth begin, increase, arrive at its Height, and decline within the Space of four and twenty Hours. For its Causes, it owns only a too violent Motion, occasioned by some Error committed in the Non-naturals, and has scarce yet any Matter. It is known from the Slightness of its Cause, a clean, well-condition'd Habit of Body, light and gentle Symptoms, a quick Crisis, and from the Pulse being entirely restored to its natural State soon after the Fever is gone off. The Cure is easily performed by Abstinence, Rest, and Diluting.

729. If the said Fever (728.) lasts several Days, it is called a *continual, not putrid Fever*: Its Causes, Signs, and Cure are the same, and chiefly require a large Bleeding, and cooling Diet and Medicines.

Of a continual putrid Fever.

730. The Greeks have given the Name of Συργχη to that sort of Fevers which are continual, without any distinct Paroxysms or Remissions; and is distinguished from the preceding Συρεναι, by its being *putrid*: It proceeds from these Causes, exceeding slight Inflammations, an Obstruction of the Bowels, an Obstipation of the Pores of the Skin, a Stoppage of almost all the capillary Vessels, and a very sharp Acrimony.

731. It's

731. It's known by a Heat offensive even to the Finger or Hand of the Physician, by a Pulse not only feverish, but at the same time unequal and inordinate; a thick, red, turbid Urine, and crude without any Sediment; from a hot and sanguine Constitution, Age, and Complexion.

732. This Fever is divided into three Sorts; the one is call'd *Homotonos*, which keeps up in one Degree of Strength and Violence; another, *Epacmaistica*, or *Anabatica*, which still increases; and the third, *Paracmaistica*, which continually decreases, and grows milder.

733. The first Sort is commonly curable; the second is full of Danger; the third, the least dangerous.

734. This Distemper (730.) is deem'd the more dangerous and mortal, as the *Pulse* is weaker, quicker, more unequal in Strength, more irregular as to Time, and more intermitting in its Strokes; as *Breathing* is more difficult, frequent, short, with a great Motion of the nostrils, the more painful about the Vitals, and the more unruly in its Time; as *Weariness* and *Weakness* are greater, the *Tossing* of the Body more frequent; as the Patient chuses more to lie flat upon his Back with his Limbs fully extended; as his *Reason* and *Passions* are more disturbed, his *Appetite* more prostrate, his *Digestion* more difficult; as the Urine is higher-coloured, thicker, muddier with the least Sediment; or as the same is thinner, more watry, more sparing, and kept difficultly; as the Patient

trembles and shakes more, chiefly in his Hands and Lips, is shy of being felt, doth play with his Hands and Fingers, and, as it were, catches at Flies or some Things he fancies to see upon the Bed-clothes, and about him; and as his Eyes look more sorrowful and moist with involuntary Tears.

735. But when the Patient labours much in his Sleep, and wakes worse after it, when either purple or livid Spots do deform the Body, the Sides of the Abdomen are stiff, and blown up, then he is very near dying.

736. The Cure, heretofore assign'd according to the various Indications, Violence of the Symptoms, the Condition of the Patient, and the State of the Disease itself prudently managed and varied, require here nothing peculiar.

737. These called by the Antients Σύνη, the modern Physicians have called *Continents*, because there is no Remission of Heat in them; but those continual Fevers that have a Remission, they call Συνεχεῖς, or *Continuae* (727.)

Of ardent Fevers.

738. Among which, the Καύση, or the Burning-hot Fever, deserves to be separately treated of, because of its Frequency, Danger, and difficult Cure.

739. Its chief Symptoms are, a most scorching Heat, unequal in different Places, most burning about the Vitals, (at the Extremities often more moderate, and even sometimes a Coldness there) and firing almost the very Air that breathed out; a Dryness all over the Skin, Nostrils, Mouth,

Mouth, and Tongue ; a thick, labouring, and quick Breath ; a dry, yellow, black, burnt, and rough Tongue ; an unquenchable Thirst, sometimes going off suddenly without any other good Sign ; an Aversion to all Sorts of Aliments ; a Nauseating, Vomiting, Anguish, Uneasiness, a great Weariness ; a little Cough, a hollow Voice, a Delirium, Phrensy, obstinate Wakefulness, Dozing, Convulsions ; and on the other odd Days, a Renewing and Increase of the Fever.

740. Its Causes are, too hard Labour, Over-waking, the Heat of the Sun long sustained and received on the Head chiefly ; too long bearing of Thirst ; the Use of heating, fermented Liquors, and of sharp Aromaticks ; the too much indulging to Venery, and excessive Fatigue, chiefly in the Summer, &c.

741. Its Course is as follows : It very often kills on the third and fourth Day ; it seldom gets over the seventh, if it be a perfect *Causus* ; it often goes off with an Hemorrhagy, (which, if but small on the third and fourth Day, is mortal) ; this may be foretold, from the Patient's complaining of a Pain in the Neck, Heaviness at the Temples, dark Dimness, a working and labouring of the Heart and Lungs without any Sense of Pain, involuntary Tears without any other mortal Sign, a Redness of the Face, an itching of the Nostrils ; and is the most advantageous if it happens an a critical Day : This Fever will go off also on a critical Day with a Vomiting, Looseness, Sweating, much Urine, thick Spittle : If the Fit reneweth on an even Day,

Day, it's very bad if before the sixth Day ; in this Case, black, spare, and thin Urine is mortal ; spitting of Blood, mortal ; pissing of Blood, mortal ; defective and troublesome Swallowing, bad ; Coldness of the Extremities, very bad ; the Face being red and sweating, bad ; Swellings behind the Ears not ripening, mortal ; the Belly too loose, mortal ; when the Patient begins to tremble, he grows delirious, and then dieth : This Fever often changeth into an Inflammation of the Lungs, with a Delirium ; that is the worst which begins with very great Torments in the Belly ; goes off critically, with a cold Shaking.

742. Which being understood, it will not be very difficult to know this Disease, when present; nor will there be any Dispute about its Proximate, and the Cause next to that; for it proceeds from the Blood being depriv'd of its softest and most liquid Part, by Means of an Inflammation raised all over the Body while the Patient was in a full Strength and Health of Body; nor is it difficult to make pretty sure Prognosticks from thence.

743. For the Cure of this Disease, it is necessary to procure a pure, cool *Air*, often renew'd by opening of the Windows, by cooling Plants fresh water'd, &c. The Bed-clothes ought to be thin and light, that the Patient may neither complain of their Heat nor Weight; he ought to be set up often; to drink plentifully of watry, soft, gentle, somewhat acid Liquors, rather hot than cold, though he should covet

the contrary, as most times happens ; the Ali-
ments be light, mealy, of Barley-gruel, and
tart Fruits, such as boil'd or roasted Pippins, and
other Apples, or Prunes, &c. Let him be let
Blood in the Beginning of the Illness, if there
be the Signs of a Plethora, or of a particular In-
flammation, the Heat be intolerable, the Sweats
too great, a Revulsion be necessary, the Sym-
ptoms very urgent, and hardly to be master'd by
any other Means ; in these Cases, Bleeding is of
an absolute Necessity : According to the Violence
and Degree of Heat, the Dryness of the Guts,
and its consequent Costiveness, the Necessity
and the Nature of a Revulsion indicated, gen-
tle, diluent, loosening, anti-phlogistic, and cool-
ing Glysters are to be repeatedly given : the whole
Body ought to be moisten'd by receiving into
the Nostrils the Steams of warm Water, and the
Air thereby temper'd, washing the Mouth and
the Throat ; bathing the Hands and Feet in
luke-warm Water ; fomenting with warm wet
Spunges those Parts whereof the many Vessels
are the most accessible and outward ; by exhi-
biting Medicines of the watry Kind, as are soft,
nitrated, of a pleasant Taste, as gently loosen
the Belly, promote Urine, and supply the same
with Matter, as, by their Bulk and Quantity, will
be a Vehicle to cause easy and relieving Sweats,
but not by their Acrimony or Stimulus ; by all
such, in a Word, as do relax the contracted Fi-
bres, and dissolve, dilute, and temperate the sharp
Acrimony and the Thickness of the Liquids.

" See here a *Drink* recommended by the Au-
thor,

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" thor, and truly commendable in this Case,
" which I copy'd from his own Mouth at Ley-
den : Rx. *Hord. Mund. ad crepatur. coct.* ʒiv.
" *Tamarind. ʒij. Coque ex Aquæ putealis Con-*
gio j. *Decoctionis ʒbiv. adde Acetosell. Citri*
recent. express. ana ʒij. *Syrup. Diamor. &*
" *Ribesorum ana ʒij. Nitri ʒij. M. sumat pri*
" *Libitu. See here one of the Glysters he*
chiefly recommends in this Case : Rx. Ol.
rosac. Amygdal. dulc. ana. ʒj. Mell. rosac. ʒj.
exaete permistis affunde, Seri Lactis ʒx. Nitri
ʒj. M.

744. To which whoever doth join what has been laid down for general Rules in the Cure of acute Fevers, and their Symptoms, and what is to follow, when we shall treat of acute Fevers which invade and tend to the Destruction of some particular Bowel, he shall clearly apprehend all that is necessary and useful in the Cure of any ardent Fever.

745. Nay, the singular remaining acute Fevers are from these sufficiently understood, or are referable to some of the particular Symptoms, or are the Effects of some other acute Disease.

Of Intermittting Fevers.

746. The Definition of an Intermittting Fever has been laid down already in (727, 737.) Its Diagnostic is self-evident ; its Distinction in different Classes easy, as depending altogether on the different Time of its invading.

747. It

747. It ought to be observed, however, that this Fever is either *Vernal*, lasting from the Beginning of the Spring in the Month of *February* to *August*; or *Autumnal*, which rages from *August* to *February*. Which Distinction is necessary to be made, because of their various Manners of Invasion, Symptoms, Endings, Durations, and Method of Cure; so that even the one drives t'other away.

748. And they, even in the Beginning of the Autumn, do exactly imitate the Nature of continual Fevers, in their long and increasing Paroxysms, though their Nature differ vastly, and require a quite different Cure.

749. They begin with a Yawning and Stretching, a Weariness, Weakness, Coldness, Shaking, Shriveling, Trembling, a Paleness of the Fingers, and other Extremities, a very difficult Breathing, an Anguish, Nauseating, Vomiting, a quick, weak, and small Pulse. As these Symptoms are greater and more numerous at once, so much the worse in the Fever, so much the greater the subsequent Heat, and all other Symptoms worse: and this is the first Degree of this Fever, answering to the Increase of the continual Fevers, and much more dangerous than the other States; " for it is known from Observations, and it is consistent with Reason, that almost all who die of this sort of Fevers, do die in the cold Fit." The Urine made then is generally crude and thin.

750. This first State (749.) is soon overtaken by the next, beginning with a Heat, Redness, strong, great, and freer Breathing; a less Anguish,

guish, a greater and stronger Pulse ; a great Thirst, and a great Pain in the Limbs and Head, the Urine most times red : And this State answers to the Height of continual Fevers.

751. Then generally, at last, succeeds a great Sweating, and a Remission of almost all the Symptoms ; the Urine is thick, its Sediment like unto Brick-dust : the Patient falls into a Sleep or Slumber ; the Fever goes off quite, and he finds himself weary, and much weakened.

752. They often change into continual Fevers, and very dangerous ones, which is mostly owing to the giving of too hot Things, by which a strong Motion is occasion'd, not easily subdued again.

753. An intermitting Fever, in the running over its three Stages (749, 750, 751.), doth force the Fibres of the Vessels and Bowels very much, by stagnating, obstructing, coagulating, driving resoluing, and attenuating ; whence the Vessels are weaken'd, the Liquids become diseased, and chiefly acquire that sort of Defect, which those Parts have, that have been insufficiently assimilated to, and mixed with the well-concocted Blood ; from which, at the same time, arises an Acrimony : so that, from all these, there is a great Disposition to profuse Sweats that very much weaken, the very viscous Parts of the Blood being apt to pass through the Pores ; then is the Urine wondrous thick, turbid, like unto Mare's Piss, and fat ; such is the Spittle : hence is the weak, dissolved, scarce coherent Blood deprived of its best

best Part, the Remainder being rough, and thick also : So that from this Laxness of the Vessels, and the Thickness and Sharpness of the Liquids, these Fevers do generally throw the poor Patients (when they continue long) into chronical Diseases ; such as the Scurvy, Dropfy, Jaundice, white Bloatings, schirrous Tumors of the lower Belly, and all the Disorders flowing from them.

754. But otherwise, if they are not malignant, they dispose the Body to a long Life, and cleanse it of old and rank Diseases.

755. So that, after a due Examen of the whole History of Intermittent Fevers (from 746, to 755.), it must be concluded, that their proximate Causē is, a Viscosity of the arterial Liquid, upon which succeeds any one of the Causes of the too strong and quick Contraction of the Heart, and a Resolution of what had stagnated.

756. And therefore, as the Order set down in (749, 750, 751.) always takes Place in intermitting Fevers, it seemeth plain, that whosoever can overcome the first State (749.), and the first Cause (755.), that he can also overcome and prevent the whole Fit of this Fever.

757. And whereas innumerable Causes, and they pretty slight, may produce the first State (749.) of a perfectly intermitting Fever (727, 737.), and its proximate Cause (755.), and that severall of 'em may be bred in the very Body, grow there, and in some Time become ripe, as doth happen in all Liquors either produced or separated in the Body ; it is more difficult to distinguish

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distinguish the really true one, bred out of so many possible ones, than to fancy a possible one, from which, being laid down as granted, Reasons be given of the periodical Paroxysms agreeing with the Rules of our animal Oeconomy; which will be plain to any one who makes the Trial.

758. The Cure therefore requireth the Use and Application of opening Salts, of Alcalis, Aromaticks, Minerals, Diluents, soft oily Medicines, of Heat, Motion, Fomentation, and Frictions, when the Fit is either entirely off, or in the first State (749.)

759. Nor is a Purge or a Vomit, to carry off the Filth out of the Somach and Guts, less useful, being given at a sufficient Distance before the expected Fit, so as to have finish'd its Operation. That this ought to be done, the Physician judges from the Patient's way of Living, Distempers, and Symptoms that have preceded, from his nauseating, vomiting, belching, swelling, smelling, and foulness of the Tongue, Throat, and Palate; from the Loss of Appetite, bitter Taste of the Mouth, and a dimn Giddiness; giving, after the Operation is over, an Opiate to the Patient, to quiet the Motion before the coming on of the Fit.

760. Which Medicines (759.) are even commendable, as they do stimulate, and thereby may conquer the first Cause, that is, the Viscosity of the Blood and Humors: "For it is commonly observed, that repeated Vomits, to such as could bear 'em, has frequently cured intermitting Fevers,

" vers, when all other Remedies had proved
" ineffectual ; and chiefly in the Northern
" Climates."

761. But sometimes they (759.) do Harm,
as they weaken, force out the thinnest Liquids,
disturb Digestions, which, above all things, are
necessary to be promoted here ; and so they pro-
long the Disease, or even occasion Death. The
cold Fit and the Fever are often successfully
removed by a Sweat ; for which the Patient is
prepared, some Hours before the certain Time of
the approaching Fit, with some Liquor that is
opening, diluting, gently narcotic, and given
him in great Quantities : After which, about one
Hour before the Fit, the sweating Medicine is
given him, and its Operation is encouraged and
continued for about two Hours after the Time
of the Invasion of the Fit. " The laying on
" of Bottles with hot Water or hot Bricks in
" Flannel to the Feet, and in the Bed, next the
" Patient, doth promote Sweating wonderfully,
" together with the drinking of large Draughts
" of Sage or Green Tea, " &c.

762. So that letting of Blood is in itself here
very prejudicial, though it has done Service now
and then by Chance ; as also a thin and regular
Diet.

763. When the Fever is in its second State
(750.) then give the Patient warm Water, with
some acid, opening and nitrous Mixture, or the
Juices of the several Sorts of Succory, and such-
like opening Vegetables ; let him lie quiet, and
keep him in a moderate Warmth.

764. When the Fit goes off with the critical Sweats, as in (751.), then are useful Ptyfans with a little Wine, Flesh-broths, temperate Decoctions of some Plants and Roots, to supply the Blood with Matter for Sweats and Urine ; so that they ought not to be forced with any additional Heat of Medicines nor Clothes, but to be promoted kindly, with the pouring in of Quantities of kind Liquors, and they continued long.

765. We must besides help the urgent Symptoms, according to the Rules laid down in acute Diseases, from (617, to 726.)

766. When the Fever is entirely suppressed, then ought the Patient to be set up again with a nourishing Diet of an easy Digestion, and strengthening Medicines ; and when his Strength is pretty well return'd, then ought he to be purged a few Times. *N.B.* "Here we have seen the Method of curing intermitting Fevers before and without the Use of the Jesuits Bark, which is yet pretty much follow'd in Holland, and other Places, where the same is neither so common, nor its Virtue so celebrated as here in England, France, and Italy, partly through the Ignorance of the People, or the Shyness of the Physicians."

767. But if an autumnal Ague be violent, the Body be already weakened by it, the Dis-temper has been of some standing, and there be no Signs of an internal Inflammation, nor of any Collection of Matter, nor of any Obstruc-tions in any of the Bowels ; then ought the

Physician

Physician immediately to have recourse to the Peruvian Bark, which, according to the Fancy of the Patient, he may give in Powder, Infusion, Decoction, Extract, or boil'd up into a Syrup ; joining proper Specificks and Antidotes, according to the different Symptoms, or its way of operating ; " for some People it will purge " violently, and others it will bind : " It ought to be given between the Paroxysms, when the Fever is entirely off, and then at convenient Distances, in a convenient Dose, taking Care to prescribe a good Regimen at the same time.

N.B. " There is scarce a Physician of any Practice now in *England* who has not given the " Bark in *remitting Fevers*, but surely none who " has not measured his Distances between each " Dose by the Time between the Paroxysms ; " for in a *Quartan* it will be sufficient to give " a Dose about each sixth or fourth Hour ; in " a *Tertian*, every third Hour ; but in a *Quotidian*, every second Hour, and even during the " Fit, without any manner of Danger."

768. Nor will outward Applications to the Stomach be useless, nor anointing of the Backbone, nor the drinking of astringent Decoctions.

769. For to cure each particular Sort of intermitting Fevers, let it be observed, 1. That such as are truly intermitting, go off the sooner, as the Fits come on quicker ; and so on the contrary. 2. That they also come so much the nearer to the Nature of continual Fevers, and are easily changed into them. 3. That per-

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haps their Cause is much moveable, and greater in Quantity. 4. Which is the reason why Spring Agues go off of themselves, as soon as the Summer Heat advances. 5. And also why the autumnal increase, as the Winter and cold Weather draw near. 6. Hence it appears which of these Fevers require Medicines, and of what Sort.

Of acute Diseases with a Fever.

770. Now come on those acute Diseases, which being accompanied with an accute Fever, do besides induce a singular Inflammation to this or t'other Organ, whose depraved Function gives a Name to each particular Disease of that Kind; such are the Phrensy, Coma, Carus, Quinsy, Peripneumony, spitting of Blood, Pleurefy, the Inflammation of the Breasts, of the Diaphragm, Stomach, Liver, Spleen, Mesentery, Guts; (the Desentery, iliac Passion, twisting of the Guts, Tenesmus, Piles, and biliary Colicks;) Kidneys, Bladder, Ureters, Womb; of the Joints, as in Rheumatisms; and of the Outside and Surface of the Body, as in the Measles and Small-Pox.

Of the Phrensy.

771. If there ariseth a perpetual Delirium, with a Fierceness in Looks and Actions, and a continual acute Fever, from the Brain's being originally affected; that Disease is call'd a *Phrensy*.

If from any other Disorder transferr'd from other Parts to the Brain, in a Fever, Inflammation, &c. that is call'd a symptomatic Phrensy, Παεξρεγούν, *Senselessness*.

772. The true Phrensy is preceded by a Heat, and violent inward inflammatory Pain of the Head ; by too great a Quantity of Blood ; an inflammatory Disposition ; a Redness of the Eyes and Face ; disordered and turbulent Sleeps ; a slight Disturbance of the Senses ; Youth ; the Use of hot fermented Liquors ; lying with the Head bare in the Heat of the Sun ; Waking, Anger, Sorrow, stern or rough Temper ; sudden Forgetfulness ; a Dryness of the Whole, chiefly of the Brain, and by a Gathering of the Nap of the Bed-clothes. But the second sort of Phrensy is preceded by almost every acute Disease with a Fever ; a Pain of the Side, which is not pleuretic, with a slight Disturbance of the Mind ; an Inflammation of the Pleura, Lungs, Diaphragm, which last Sort is the worst : This Sort of Phrensy may be foreseen from the Blackness of the Tongue, Costiveness, Suppression of Urine, white Stools (which last doth always end in Death) ; pale, thin Urine, without any Colour ; from the Patient's not being sensible of Thirst, (when, from the Nature of the Fever and Inflammation, he ought) ; his looking and acting wildly and roughly, as in a Degree of Madness, and, contrary to his Temper, looking very red ; his Urine having a black Cloud ; his being unable to Sleep ; all which are Signs of an approaching Inflammation in the Head.

773. When both (772.) are present, they are attended with the following Symptoms: 1. The Notions about external and sensible Objects are depraved, (they think to see, to hear, to feel, &c. things quite different and contrary to those they do); and also the internal Senses (as Memory, Imagination, &c.), and their Reason and Passions are quite unhinged. 2. They grow wilder, unruly, and even beastly (so as to do any ugly or ill-natur'd Trick to the unwary and helping By-stander, 'till they are forced to tie 'em down, &c. they are Restless, or have often very turbulent Sleeps. 3. Their Pulse is hard; they breathe seldom, but make it up by the Length of their Breathing. 4. Their Face is generally very red, staring, and frightful to behold; their Eyes look wild, and are very protuberant, and their Nostrils drop frequently.

774. The Prognostic of this Disease is laid down in the following Rules:

A genuine Phrensy kills on the 3^d, 4th, and 7th Day, and seldom outlasts that.

If the same be pretty fierce, it often changes into Madness.

If this last increases a little, it becomes quite savage and ungovernable.

It often terminates into a Lethargy, a Coma, or a Catoche.

The vomiting of rusty Matters, upon account of an Inflammation of the Brain; a frequent and unbecoming spitting upon the By-standers; Tremblings; Excrements and Urine being either intercepted, or white; the Urine crude; Convulsions;

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Convulsions ; a hunting for Flies or Napes, that seem to be flying before them ; the Eyes as if there was Dust or Motes upon them ; a gnashing and grinding of the Teeth ; Insensibility of Thirst, which is commonly the foreboding of Convulsions ; a continual change of Symptoms ; the subsiding of a swell'd Ulcer : all these are most times the Presages of the highest Danger, and of Death.

That, which either succeeds a Peripneumony, or comes from the Inflammations, leaving the Lungs to invade the Brain, is mortal : That, which comes from and in the Small-Pox, is very bad : That, which comes from the iliac Passion, is mortal also.

An Inflammation, fixed for some Time in the Jaws, and there producing a Roughness, mounting up in the Head, creates a mortal Phrensy, and those have great Heart-beatings, and Pulse-sations in the Neck outwardly appearing, and they all along work and toss with great Labour and Anguish.

That Sort where the Patient is constantly Talking, and taken up with his Affairs, and the Necessaries of Life, is one of the worst.

775. Such as have died of Phrenses, and were opened after their Decease, had their Meninges inflamed ; a Gangrene, Imposthume, and a Sphacele of the Brain, or some very sharp, corroding, ichorous Matters.

776. Whence we may draw the nearest Cause of the true Phrensy to be a true Inflammation, laying hold chiefly of the *Pia* and *Dura Mater* ;

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ter ; and that of the symptomatic, to be a like Inflammation, arising from a Removal of the inflammatory Matter from other Parts into these Meninges.

777. Whatever can occasion these, may be call'd the next Cause (772.)

778. And even from hence must be fetch'd the true Diagnosticks, to discern these two Sorts of Phrenies.

779. To obtain a Cure, we ought chiefly to attend what follows : If in phrenetic People the Veins do swell in the Legs, or the Piles do flow, it is advantageous to 'em.

A Looseness in a moderate Degree, is of Service.

A Pain of the Breast, Feet, or even a violent Fit of Coughing seizing them, doth put an end to this Disease.

As likewise a large Hemorrhage.

780. A genuine Phreny doth require the most powerful Remedies without any Delay, which are able to remove the Inflammation of the Arteries of the Brain.

781. Which are chiefly to be taken from the general Cure of all Inflammations, observing these following cautionary Rules : Blood must be let to a large Quantity out of a large Orifice of one or more Veins at once, in the Foot, Throat, and Forehead. Great Quantities of cooling Decoctions ought to be given, with a large Proportion of Nitre. Then give cooling Purges ; and at the Time of their working, great Draughts of diluting, nitrous Drink. Glysters of

of the like Kind, with some lenitive Electuary, or Honey, or any such Opener. The Anus must be fomented with the Application of Spunges, the Piles be rubb'd with Fig-leaves, &c. or to be emptied with Leeches. The Mouth must be cooled and wash'd often with soft Gargles ; the Nostrils, Eyes, and Ears to be fomented ; the Head to be shaved. Having done all these, if the Illness doth not abate, give Opiates ; bathe the Feet ; apply Blisters, Cupping-glasses to the inferior Parts. The Body ought to be moderately cooled, and set upright. *N. B.* " If Blisters are good at any time, 'tis in the Beginning ; and then apply 'em boldly to the Neck, and even upon the very Head, as it is the Practice of the most able Physicians in *England*."

782. But if the Phrensy has been occasion'd by a pre-existent inflammatory Distemper in some other Part, it ought chiefly to be minded, whether the Nature of that Illness will bear the Applications of (781.) ; which if not, then ought it to be cured according to the Method peculiar to that, always adding the Remedies that divert from the Head, and are externally applied.

Of the Quinsy.

783. When the Faculty of Swallowing and Breathing is very much hinder'd, or very painful, or both these together, which proceeds from some morbific Cause acting upon the Parts performing both these Functions, seated above
the

the Lungs and the Stomach, it's call'd a *Quinsy*.

784. Whereof two Sorts are observed: The first, without any Sign of an external or internal Tumor; but t'other always with some Swelling in some Part of the fore-mentioned Organ (783.)

785. The first happens at the latter End of long continued Diseases, chiefly after very large and often repeated Evacuations; its Companions are a Paleness of the Jaws, their Dryness, together with a Thinness; so that in this Case the Nerves and Muscles of those Parts are most times paralytic; it's most always a Sign of Death just at hand; it's seldom cured, and then only with Remedies filling the empty Vessels with good vital Juices, that are at the same time warming and corroborating.

786. This very first Kind arises sometimes suddenly, without any evident Signs of any other Disease before: 'Tis hardly curable; and after Death, it generally shews that the Lungs were imposthumated.

787. The Quinsy which arises from a Tumor has divers Names; either from the Nature of the Tumor itself, or from the Place which the Tumor occupieth. Whence 'tis distinguished into an Oedematous, Catarrhous, Inflammatory, Purulent, Schirrous, Cancerous, and Convulsive Quinsy.

788. These Tumors (787.) do occupy the Tongue, its Muscles; the Palate, Tonsils, the Uvula, and its Muscles; the Cavities of the Os

Os Frontis, of the upper Jaw, the Os Sphenoides, by the growing there, and taking Root of a Polypus still increasing, stopping the Nostrils, pressing upon the depending Palate, making the Jaws narrower, and shutting up the Pharynx and Larynx ; they occupy all the Muscles of the Os Hyoides, or some of them ; the external, internal, common or peculiar Muscles of the Larynx ; the internal, muscular Membrane of the Wind-pipe ; the superior Muscles of the Pharynx, and also the Oesophagæus ; the very Muscle of the Gullet ; the Glands of the Wind-pipe, and they so nearly seated to the Gullet, that its Fistules may be compressed from a Tumor of those, as are all the Salivar, and all such as are scattered about those Parts ; and, lastly, even those of the gristly Shield, call'd *Thyroides*.

789. From which History (785, to 789.) well understood, it is plain, why so many unforeseen, and often fatal Issues of this Disease (783.)

790. But as it is so manifold, and produces such various Effects, and consequently requireth so many Remedies, and different Methods of applying them ; it will be proper to enlarge upon it, as much as the Shortness of our intended Work doth permit.

Of the watry Quinsy.

791. The watry, œdematous, and thin catharous *Quinsy*, is a disturb'd or painful Exercise of the swallowing and breathing Faculty, with

with a lymphatic Tumor of the Parts, which either perform them, or are adjacent to those Organs.

792. It has its Seat therefore, like all other watry Gatherings, in that part of the Glands where the Lympha is laid up and squeez'd out of the Arteries.

793. Its Cause therefore is, whatever hinders the free Thoroughfare of the Lympha; and those Causes are very numerous, and very different. Every Compression of the Veins whatsoever, into which, perhaps, the Emissaries of those Glands do empty themselves; an Obstruction grown in the very Follicle of the Gland, from a kind of Plaister, Phlegm, Stone, Fungus, and such-like there produced; an Obstruction in the Emissaries themselves, from the said Causes; a Compression of the same Places, from without; a very cold Body applied to the Extremities of those excretory Ducts; and lastly, a weaker Circulation of the Humors in general.

794. The Effects of this Evil are, a watry, white, cold Swelling; a Compression of the adjacent Vessels; a Hindrance to the Functions, which depended on their not being pressed upon.

795. So that the Diagnosticks are plain enough from (791, to 793.), and the Prognosticks from (794.)

796. The Cure is performable with such things as, 1. Resolve and move the obstructing Causes; or remove the Parts entirely, either with Causticks, or with the Knife; "which is
" the

" the only sure way to prevent a Return, when
" practicable, as it is easily upon the Tonfils, where
" some People are distemper'd upon every little
" Cold, or Change of Weather.)" *Hereto*
belong all emollient, opening, and loosening Me-
dicines in the Shape of Fotus's, Cataplasms,
Gargarisms, Injections with Syringes, Washes,
or Steams ; and outward Frictions, to cause the
Inflammation to turn to the Outside of the
Throat; Causticks, and the Incision-knife. 2. All
such as lessen the *Quantity* of the Lympha, emp-
tying the same by opposite Doors ; which is per-
form'd with Masticatories, Blisters, " (applied
" not only in the Neck behind, but even round
" the Neck before, as I know it to be succef-
" fully practised by several Physicians in Lon-
" don ; only the Women are shy of this, because
" of the Deformity it sometimes occasions to
" their Necks, most times their greatest Pride ;)"
dry, internal or external Sweats ; Diureticks of
the same Kind, or smart Purges, that will pro-
mote watry Stools. 3. Abstinence from Li-
quids as much as possible, a warming and drying
Diet. 4. The Increase of the circulating Pow-
ers, by the Means laid down in (98, 99.)

A Schirrous Quinsy.

767. But if a schirrous and much growing
Tumor has occupy'd the Glands (788.), it will
be known by the Signs of a Schirrus (in 392.)
And from its known Situation a Quinsy may
be foreseen, and is perceivable when there al-
ready ; if then the schirrous Tumor can be ex-
tirpated,

tirpated, that alone will be a safe Remedy: Or the Surgeon must with a great deal of Prudence endeavour to lodge a Caustic in the midst of the Tumor, to eat the same out; which is feasable enough when the Seat is near the Jaws.

An inflammatory Quinsy.

798. But when either the Glands (788.) or the Muscles are invaded by an Inflammation, then ariseth a Disease properly belonging to this Place; which, because of its often fatal Acuteness, and sudden Violence, is often-times not superable.

799. Its Cause is, 1o. Whatever is capable of producing a general Inflammation (315, 376, to 378.) 2. Every thing which doth direct the Causes of an Inflammation chiefly to the Places described in (788.) principally to the Larynx, Pharynx, the Os Hyoides, and its Muscles, and to the superior Parts of the Wind-pipe: These are, a Disposition towards inflammatory Distempers peculiar to young Men abounding in Blood, of a ruddish Complexion; a frequent and strong Exercise of those Parts by Oratory, singing, hallooing, hard riding against a strong and cold Wind; sounding of Trumpets, and playing on the Flute or Hautboys; hard Labour in a cold Air; a great Heat in the Spring suddenly overtaken by a great Coldness; the Dryness of the Jaws, from the Reception and Protusion of warm Air in Sunshine Weather, or in an inflammatory Fever.

800. When

800. When produced from these Causes (799.) it creates many, and some very frightful Symptoms, according to the Variety and Necessity of the Part it occupieth.

801. If the Lung-pipe only is affected (without offending the adjacent Parts) in its internal muscular Membrane ; then arises a Tumor, Heat, Pain, hot, acute Fever there, without any other externally apparent Signs ; the Voice grows shrill, hollow, hissing, and the breathing in of Air occasions an accute Pain ; the Breath is small, frequent, upright with extreme Working and Panting : hence the Circulation of the Blood difficult, the Pulse wonderfully and soon wavering, prodigious Anguishes, Straitness, and sudden Death. And this is one of the most fatal Quinsies, and which is hardly discoverable by any external Signs ; and how much the nearer this is to the Glottis and Epiglottis, so much the more and sooner doth it prove mortal.

802. If the Larinx chiefly be acutely inflamed, and the Seat of this Evil be in the white Muscle of the Glottis, and together in the fleshy Muscles, whose Office it is to shut the same ; there ariseth a terrible Quinsy, which soon strangles. The Signs are the same as the first in (801.) a violent Pain in the raising of the Larinx upon swallowing, increased upon speaking or hallooing ; a very shrill and shrieking Voice ; a very hasty Death, with the utmost Anguishes : And this is the worst Kind of all, and not discernable by any outward Sign.

803. If

803. If only those Muscles are highly inflamed which serve to lift up the Os Hyoides and the Larynx, then are the following Signs apparent; Breathing is pretty free ; Swallowing upon the Exercise of its first Action acutely painful ; besides the Signs of Inflammations in general, and the same on those Muscles which a diligent Enquirer may easily discern.

804. But when the Pharynx is solely affected with this Disease, the specific Signs are, upon Inspection into the Mouth, visible ; a pretty easy Breathing ; Swallowing painful, and even impossible ; the throwing back through the Nose whatever is offered to be swallow'd down ; the same things drove partly into the Wind-pipe, and there causing a violent Cough : hence a Want of Meat and Drink ; a Drying up, and an Exasperation of all the Humors in the Body ; the Fever not very high ; Death not following until the Distemper has been of a pretty long Continuance.

805. But if the Tonsils, the Uvula, its membranous depending Cover, or its four Muscles (call'd *Pterygostaphylini*) are much inflamed ; then happen almost all things as in the first (of 804.) ; Breathing is troublesome, difficult, not to be drawn through the Nostrils, or at least but little, and but narrowly through the Fauces ; Meat, Drink, or Medicines that should be swallowed, are turn'd back to the Mouth, because of the Straitness, and violent Pains ; a perpetual hauking ; a continual dropping of Phlegm towards the Cavities of the Tonsils ; an acute Pain

on

on the Inside of the Ear, and in the Passage from the Jaws thither ; a Cracking in the Ears whilst the Patient endeavours to swallow ; sometimes an entire Deafness. This Sort of Evil proceeds, of late, much from the Great-Pox; and is much to be dreaded.

806. If all these Sorts of Inflammations (801, to 805.) do invade together, or successively; it's easy to concude that the Disease is like to be so much the fiercer, as more of 'em happen together ; and that then also the Symptoms will be more in Number, and more dreadful in Effect.

807. For then the Return of the Blood into the external Jugular Veins, or through them, when compressed, being hinder'd; there ariseth a Tumor of the Jaws, Lips, Tongue, and Face ; the Tongue hangs out, twists, and inflames ; the Eyes grow red, and jut out in a frightful manner ; the Brain, from the same same Reasons, is suffocated : hence are the Sight, Hearing, and Feeling dull ; a Delirium follows ; the Mouth is kept wide open ; the Patient snoars ; he cannot lie down without being suffocated ; there is a Redness, Tumor, Pain, Pulsation; often apparent in the Breast, Neck, Nape of the Neck : whence the jugular, frontal Veins, and those under the Tongue, have apparent varicous Swellings.

808. And every Quinsy doth run over all the usual Stages of the general Inflammations, occasions the same, and undergoeth the Changes

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into a Resolution, Imposthumation, Gangrene,
or a Schirrus.

809. If therefore the Signs do shew that the Quinsy is as in (801, 802.), it ought forthwith to be enquired into, whether as yet it be a pure Inflammation, as in (382, to 384.), and then ought a Resolution (386.) to be instantly endeavour'd by the most powerful Remedies, as from (395, to 402.) 1. The Patient therefore must immediately be let Blood, to a great Quantity, at several times, until Weakness, Paleness, Coldness, the falling of the Vessels, shew that the Strength of what remains is not able to increase anew the Tumor, and the Stiffness of the Vessels. 2. The Belly must be loosened stoutly with either Purges, or purging Glysters frequently injected. 3. A Diet must be ordered of the thinnest and softest Kind. 4. Medicines of the nitrous and acid Kind. 5. Moist, soft, luke-warm Steams continually received upon the Part, external Fomentations, and Derivations by Blisters.

810. But the Sort of (803.) is seldom so dangerous as those of (801, 802.), and requires the same Sort and Method of Cure as (809.), but less in Number and Force: And chiefly apply outwardly anodyne, loosening, and emollient Medicines in the Form of Cataplasms, &c.

811. While, lastly, the Quinsy described in (804, 805, 806.) is yet inflammatory, then ought the Medicines of (809, 810.) to be jointly applied, adding moreover continual moistenings of the Mouth and Jaws with the softest, nitrated,

attenuating,

attenuating, warm, watry, diluting, fat, loosening Medicines, such as may be borne without Uneasiness in the Mouth, and be applied to the Part with gargling gently, or be injected with a Syringe: This ought to be done continually, to give no Time to the Parts to grow dry again.

812. If all these Things having been omitted, or attempted too late, and in vain, (809, 810, 811.), the Illness be very recent, and choaking, from a Cause situated higher than what will admit of Cutting, with the worst Symptoms of (807.), but not yet turned into a Gangrene of the Parts; then ought the Physician, without Delay, after having prudently shewn the Extremity of the Danger, (whether it de done, or omitted) propose the Operation of laying open the Wind-pipe externally; which Operation is call'd *Bερχοτομίη*.

813. Which must be done, after a due Preparation of the Patient's Body, in the Wind-pipe, about a Thumb's breadth below the lowermost Part of the Larynx; having first laid open the Skin, and Integuments, removed the Muscles, cut the Intervals between the Ring-like Cartilages of the Wind-pipe, put in a Silver-Tube; then having removed the Cause which made this Operation necessary, curing and healing the Wound up again: In the Interim, nourishing Glysters ought to be injected as frequently as possible, until the Patient be again capable of Swallowing.

Of the impostumating Quinsy.

814. But if the Evil has already got to such an Height, that it be plain the affected Part begins to suppurate, by the Signs in (387.), then ought the same to be treated according to the Method and Rules concerning Imposthumes in general, from (402, to 412.) But chiefly there ought constantly to be used a gentle, soft Gar-gle, a large relaxing Cataplasm to be applied outwardly ; the Place to be launced when it lies bare to the Touch and Sight ; and if by the Largeness of the Swelling, the Patient can all the while neither swallow nor breathe but with the greatest Difficulty, the Operation of (812, 813.) must be called to his Assistance.

815. But that Sort of Quinsy, which was first described in 801, 802.) can but seldom last long enough to attain to an Imposthumation, but it will either end well by a speedy and timely Resolution, as in (809.), or otherwise kill the Patient.

Of a gangrenous Quinsy.

816. If also the Causes of the Quinsy, described in (799.), do increase, and dwell more in a noble Part, as in (801, and 802.), or even in the external, as in (804, 805.), it often turns into a mortal Gangrene : This we may know to be, 1o. From the general Signs of a Gangrene, in (426, to 429.), being applied to the Parts here affected, whose Function is depraved. 2o. From its peculiar Signs ; if there has been first an apparent Redness and Tumor, which have suddenly disappear'd, without any good Cause

Cause or Effect ; and if the Pain is also gone off in the like Manner ; if the Jaws are suddenly grown smooth and even, dry, slick, and livid; when it is come to this pass, it is in vain to attempt any Remedy, for there is no Possibility of a Cure.

817. A Quinsy, from the Tonsils, the Uvula, the Palate being affected, will turn and end in a Schirrus of those Parts, for the Causes laid down in (392.) ; whence it is easily known, and the Cure is not very difficult, chiefly if this latter is already grown cancerous. (See 79. No. 7.)

Of the convulsive Quinsy.

818. If the Nerves, which do move the Organs and Instruments of Swallowing or Breathing, are hinder'd to perform their Functions upon those Organs, there ariseth a paralytic Quinsy ; such a one is said to happen from the Luxation of the Prominence of the second Vertebre, (which naturally ought to stick into the first) or of another Vertebre of the Neck below the former : " Which is said to happen much to " Hunters in very mountainous Countries, when, " in falling from their Horses, they put out these " Vertebres, of which they wou'd die very " soon, unless some of their Company (ac- " quainted with the Cause of their lying Mo- " tionless) did forthwith fall a pulling their " Head one way, and their Legs another, with " all their Might, &c." If any Cause of Con- vulsion doth invade the Muscles of the Pha- rynx or Larinx, there ariseth a sudden and suf- focating Quinsy ; such do happen in epileptic

People, in hysterick and hypochondriac often, and such as are often troubled with the Cramp; in them it often goes, and comes again: It is chiefly cured with the Medicines which are proper to remove the last-mentioned Diseases.

" This Sort of Quinsy I have seen kill a Boy
 " of about seven Years old, after I had removed
 " the Fits several times with proper Medi-
 " cines; and he died in an Instant, as he was
 " endeavouring to make Water, without so
 " much as a Struggle or a Cry, though he
 " had yet his full Strength, and was but little
 " before playing about the Room. This hap-
 " pen'd at Eltham in Kent, at one Mr. Newland's
 " the Child's Grandfather; and I then call'd it
 " a Cramp of the very Bronchia."

819. From this History of Quinsies (from 783, to 819.) we may come to the Understanding of the Observations of Hippocrates.

A Quinsy without any apparent Sign, shewing itself only by an Orthopnæic Strangling, with an acute Fever, violent Pain in the Head or Legs, without any good Signs, is soon mortal, and kills on the first, second, or third Day.

A Quinsy coming as a Symptom to other inflammatory Distempers, or if it be the Sorts of (801, and 802.), occasion'd by, or born from those of (803, 804, 805.), they all of 'em are mortal.

A Quinsy that forces Froth out of the Mouth, squeezing out a thin Rheum, with involuntary and insensible Stools, in a very acute Fever, without any apparent Sign in the Parts, with a go-

ing off of the Tumor, Redness, and Pulsation in the Throat or Tongue, yet Strangling ; is always mortal, and that very soon.

Of the genuine Peripneumony.

820. If there happens a real Inflammation in those Vessels of the Lungs that are capable of being affected therewith ; that Illness is call'd a genuine *Peripneumony*.

821. Such Vessels are the Bronchial Arteries, those of the softer Substance of the Lungs, and the Lymphaticks, which attend the same throughout.

822. Whence, it seems, we may conceive two Sorts of Peripneumonies : The Seat of the one is in the Extremities of the *Arteria Pulmonalis* ; and of t'other, in the Productions of the Wind-pipe, call'd *Bronchia*.

823. And it may appear, at first Sight, that the first Sort is the most dangerous, and the last easier cured ; but that the same may occasion the former, and that both have often the same Beginnings from the same Causes.

824. Which several numerous Causes may be brought over, 1°. To the general one's of all Inflammations all over the Body (from 375, to 380.) 2°. To such as chiefly affect the Lungs ; as are the *Air*, being, to a fault, moist, dry, hot, cold, heavy, light, poison'd with caustic, astringent, and even with coagulating Exhalations : The *Chyle* made up of too gross, dry, and viscous Parts, having either too great or too little a Proportion of Acrimony : The *violent*

Exercises of the Lungs, be it in Running, Wrestling, Striving, Singing, Hallooing, or hard Riding against the Wind : Poisons that are coagulating, corroding, tying up, receiv'd into the Veins, which carry the Blood more immediately to the Heart ; violent Commotion and Disturbances of what is call'd the Mind ; a Quinsy with a great Oppression of the Chest, and an erect Breathing ; a violent Pleurisy and Inflammation of the Diaphragm.

825. If these Causes (824.) have occasion'd the Disease ; this will also, according to the Difference of its Seat (822.) produce divers and sundry Effects : For that of the bronchial Arteries producing all the Effects of an Inflammation (382, to 393.), it will at length, by pressing upon the contiguous Extremities of the pulmonic Arteries (as by a Contagion) inflame them.

826. But when the very extreme Vessels of the pulmonic Artery are inflamed, the Blood stops, the Vessel is extended, the moist, liquid Part is squeez'd out of it in the manner of Sweating, the thickest is heap'd and throng'd together; almost all the Blood, as yet capable to circulate, is gathered together between the right Ventricle of the Heart and the Extremes of the pulmonic Arteries : hence the Lungs, grow weighty, unable to unfold themselves, and livid; the left Ventricle of the Heart is depriv'd of Blood : hence an extreme Weakness, a small Pulse, soft, unequal, and uneven in all respects; small, quick, difficult, upright Breathing, often disturbed

disturbed with Coughing, and hot ; then the Blood that comes through the Veins towards the Heart stops at the Ear of the right Ventricle of the Heart ; an unusual Redness comes in the Face, Eyes, Mouth, Throat, Tongue, and Lips : at last comes on Death itself, with its immediate Fore-runners, a Choaking, with an unspeakable Anguish, and Loss of Senses.

827. If the Case, as just now described (826.), seizeth upon both Sides of the Lungs at once, and violently, Death must very soon and unavoidably ensue ; Nature not being in a Capacity to wait for the Reliefs that are proper to remove Inflammations, and described in (386, 395, to 402.)

828. But if it has laid hold of but one Side of the Lungs, and but a small Part of that, and the Causes are not of the most violent ; there is some Hopes, but no Certainty, that the Patient may be well cured.

829. So that we may know the Nature of this Disease, and foretel its Event, by looking diligently into what has been said from (824, to 829.), chiefly if we observe that it takes the same Course with all Inflammations (386, to 393.) ; so that it has different Aspects at the different Times of its Duration, and consequently may terminate into Health, another Disease, or Death.

830. *It terminates into Health,* 10. By a beneficial Resolution, or by Dissipating, if the Constitution of the Patient is not very dry, and harden'd by Labour, or violent Exercise, but rather somewhat soft like that of Women ; if the Humors, that occasion the Inflammation, be
not

not very harsh, but gentle, and not too slimy; if the Part affected be bronchial, or of the soft Substance of the Lungs, and be not too large.

2º. By causing the Patient, as soon as possible, to spit freely, abundantly, yellowish, with a little Mixture of Blood, of a reasonable Thickness, by which he perceives his Pain to diminish, his Breathing become easier; by which the Physician perceives the Pulse to beat larger and fuller than before; and, lastly, if it be not long before he spits smooth and white; which we may expect, and must fall out so, when rightly managed, if the Seat of the Illness is chiefly a bronchial or pulmonic *small Artery*.

3º. By Stools with much Choler, giving Ease, and which bring away Matter resembling the wholesome Spittle just now described.

4º. By great Quantities of Urine, thick Settling, giving Ease with first a red Sediment, and then whitening by degrees, and made such before the seventh Day: which rightly succeeding, the Patient breatheth easily, the Fever is gentle, and of a good Sort; the Patient thirsts no more, but he is warm, moist, soft, and lax all over his Body equally.

N.B. "Hippocrates saith, That loose
" Stools are mortal: But this ought only to be
" understood of watry Stools, and such as the
" Patient's Breathing is not mended by, but ra-
" ther made worse, which ought to be stopp'd
" immediately. *Mercurialis* finds out another
" way to excuse *Hippocrates*, and to reconcile
" him with *Galen* and *Aretæus*; he thinks *Hip-*
" *pocrates* meant nothing else, but that a Loole-

" nctis

" ness in the very Beginning was mortal, but
" beneficial if happening together with the
" other Signs of a good Concoction, or at the
" Time thereof; and for this he quotes the
" XLth §. of the 7th Epidemicorum."

831. *It terminates into another Disease* capable of being produced by any Inflammation, or that particular one of the Lungs, as they are damaged, and thereby hinder'd from performing their Offices duly.

832. Therefore it first terminates in an *Inflammation*, when the inflammatory Matter (376, 377, 824.) not being able to resolve and dissipate itself through the Strength of Nature (380.), nor corrected by the Help of Art, yet becomes gentler (387.), stagnating, hot, and throbbing, breaks the smaller Vessels, resolves the same into purulent Matter, and, by extending the Sides of the pressing Substance, or eating through the same, forms, within a Fortnight, an Abscess, or a *Vomica*.

833. That this will happen, may be foretold to a Certainty, in making the following Observations : 1^o. If there have been sure Signs of a Peripneumony from very corrosive Matter (825, 828.), but yet not in the highest Degree, as in (826.) 2^o. If no Resolution, nor the Signs thereof (830.), have appear'd timely, that is, before the fourth Day. 3^o. If the Symptoms (825, 826.) mentioned, have not been removed by well-digested Spittle, and evacuated in due Order, according to the critical Days, viz. the third, fifth, seventh, ninth, eleventh,
and

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and fourteenth ; and that changing successively, and mending 'till it is come to that Colour and Consistency as promiseth a Cure ; or if the same Symptoms have not been conquered by Bleeding, Medicines, or Diet. 4°. But if, on the contrary, the Symptoms (not altogether the worst) continue obstinate, with a continual Delirium, a soft and floating Pulse, like to the gentle Motion of the Waves in a Calm after a high Wind.

834. That it is actually gathering, a judicious Physician may know by the following Signs :
1°. If those of (833.) be present. 2°. When the Patient is often taken with slight Shiverings, sometimes in one Place, sometimes in another, without any visible apparent Cause from without, such as might be, uncovering of himself, or drinking suddenly of any cold Liquor ; when the Pain hath relented, and the Difficulty of Breathing remains, a Flushing appears upon the Cheeks and Lips, the Thirst continues, and a little troublesome Fever hangs upon him, and chiefly towards Night, and the Pulse is weak and soft.

835. That this Imposthume is already formed, one may conclude, if the foregoing Signs of (833, 834.) have already lasted their usual Time.
2°. From a constant, dry Cough, increasing after every Meal, or Motion ; a difficult short Breathing, with Puffing and Rattling increased also after Meals, or Motion ; when the Patient can lie only upon that Side where the Imposthume is ; when there is a continual little Fever, tho' sometimes periodical as to its Fits, heighten'd generally

generally by Eating, Drinking, and Motion, with Redness upon the Cheeks and Lips ; the Patient loseth his Stomach, is very dry, sweats in his Sleep, chiefly about his Throat and Forehead, maketh frothy Urine, looks pale, grows very lean, and extremely weak.

836. This Imposthume (835.) when once made, has different Events. 1^o. It suffocates the Patient, because the Tumor either occupieth all that Side of the Lungs, or, by its Compression, doth interrupt the Motion of those Parts that were yet free. 2^o. It suffocates him, when it breaks suddenly, and sends forth all the Matter contain'd therein at once into the Windpipe. 3^o. It disappears, and emptieth itself by a purulent Spittle, which maketh the Patient easier, but consumeth him. 4^o. It disappears, by emptying itself into the Cavity of the Chest, or into the Space of the dilated Midriff, which divides the Chest into two Parts. 5^o. Whence several Sorts of Consumptions, or an Empyema, both generally mortal.

837. There is another Distemper into which the Peripneumonia vents itself, when the inflammatory Matter, already become purulent (832, 833, 834.) is returned into the pulmonic Veins, and is remixed with the Blood, and thrown upon some Parts, so that the Lungs are freed, but another Part burthen'd with the same ; which Part, if less necessary to Life, the *Μετασωσις*, or Transportation is reckoned happy : But if it happens to be the Liver, the Spleen, the Brain, or such-like, it is generally so much the worse.

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Hence happen Impostumes in, near, or behind the Ears, in the Legs, or the Sides of the Belly.

838. A judicious Observer may know, that such Abscesses are like to be, 1^o. If with the Signs of a Peripneumony not of the worst Kind (833, 834, 835.), he seeth a Fever, which is not violent, nor malignant, but continual, with a Pain, Straitness, Heaviness of the Chest, and a Difficulty of Breathing, but none of these to a violent Degree, and without the Signs of a Dissipation (830.) 2^o. If the Pulse, together with these Signs, be constantly, and in all respects very fluttering. 3^o. And chiefly, if he be sensible in those Places (837.) of Pains, Redness, Heat, and Stretchings in the Muscles.

839. We know that those Abscesses are to be in the Legs ; 1^o. If the Signs of (838.) be present. 2^o. If at the same time there be Signs of a very flight Inflammation at the Sides of the Belly.

840. But we know that the same will be about the Ears : 1^o. If the first Signs of (838.) be present there. 2^o. If at the same time the Sides of the Belly be without an Inflammation, and very soft.

841. We know them to tend towards the Liver, if the first Signs (838.) be present. 2^o. If there be a remaining Pain in the Liver, with a yellowish Urine, almost like that in a Jaundice, and a yellow Skin. From hence, if the Imposthumation fixes in the Liver, ariseth a dreadful Scene of Evils ; of which hereafter at large.

842. Thef

842. These Imposthumes (839, 840.), if they ease the affected Lungs, if they carry off the Fever, if they remain full of Matter, and make a good Discharge, as it were, through a Fistula, and if they happen Time enough before the ninth Day ; in such Cases they are always advantageous : But if they do not appear before Spittle is purulent, without being yellower, or relieving the Patient in the Particulars before named ; in these Cases they are to be deemed ominous : But if, after having appeared, they disappear again in the Beginning of the Illness, and the Peripneumony returns, then are they altogether mortal Signs.

843. It happens also that this Disease terminates in a callous Tumor, or in a Schirrus in the Lungs, if the Matter and Circumstances of (392.) meet together. From this the Patient is all his Life-time troubled with a Cough, and breaths with Difficulty, unless he sits upright ; which Disorders are still more troublesome after Meals, or Motion : This Case you must suppose present, when the Signs of a Bag of Matter in the Lungs (835.) are absent ; and here you'll generally find the Lungs to stick to the Pleura.

844. Lastly, When the bronchial or pulmonary Artery is invaded with the most violent Sort of Inflammation (388.), and that from an inward Cause, or an external one (824.), there ensueth suddenly a Gangrene, and from this, quickly after, an entire Mortification, because of the Quantity and often-repeated Motion of the Blood

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Blood at each Breathing and Contraction of the Heart, by which so tender a Body, and of so soft a Substance as the Lungs, are soon destroyed. That this will be, may be learn'd, 1°. From the Signs of the most violent Kind of Peripneumony (826.), which has not mended by any Accident, nor by any Application of due Remedies. 2°. An extreme Weakness coming on suddenly, and shewing itself chiefly by the Pulse. 3°. From the Coldness of the Limbs, and other extreme Parts. And we know this same Gangrene to be present already, if the foregoing Signs have appeared ; the Patient spits ichorous, thin, ash-coloured, livid, black, and stinking Matter ; and then Death is at the Door, and seizes him suddenly.

845. To the Knowledge of all these different Kinds of Peripneumonies, and of their Changes into other Distempers mentioned in (830, 832, 836, 837, 843, 844.), industrious and diligent Physicians have attain'd, by a curious Attention to the usual Course of this Distemper in general, and also by an exact Anatomy of such as have died of them.

846. Whence it is past all Doubt, that this Disease, so amply described by the Antients, by the Name of *Peripneumony*, is, in its Origin and Nature, nothing else but a true Inflammation of the Substance of the Lungs.

847. The Prognostic therefore cannot be very difficult it ; appearing, *That this Disease is always very dangerous* : because it is absolutely necessary the Lungs should remain capable of
that

that vital Function (Breathing); and the inflammatory Matter should forthwith be moved; because of the great Quantity of Blood which is continually thrust into the Lungs, with all the Strength of the right Ventricle of the Heart; at every one of his Contractions; because of the perpetual Motion of the Lungs themselves at every Breathing; because of their Situation, which doth not admit of any topical Medicines; because of the extreme Tenderness of their Vessels, easy to be destroyed; and chiefly, because it is impossible to make a Revulsion here, which is so necessary a Remedy to remove Inflammations.

848. From this (847.) it appears when, wherefore, and upon what Symptoms it must needs terminate into a sudden Death; viz. If the Lungs are inflamed all over, together with the Heart; when this last seems to fall on one Side, that is, when the Heart is bore down towards one of the Sides, the Patient is taken with a general Palsy, lieth cold and senseless, and dies either on the second or third Day. If the Urine is well digested in the Beginning of the Illness, but grows thin after the fourth Day; if in the Height of the Illness the Patient is obliged to be set upright; if he voids purulent Matter in his Stools without being eased; if the Peripneumony is a *dry one*, with a hot Ratling in the Throat, as if the Lungs were full of Matter; if the Disease be very violent in a very dry Constitution, and in Bodies that are harden'd by their Way of Living and Exercise,

as are most Husbandmen, Hunters, Soldiers, and the like; if it be a bad Sort, with dropping of Blood from the Nose; if it be a dry one, with red Spots over the Breast, which argue the Inflammation to have spread itself throughout; if a strong Defluxion of sharp Matter from the Brain, with violent Sneezings, hath preceded, or doth follow; if it took its Rise from a hot, burning Fever; if there appears immediately after the sixth Day a bilious Spittle, with Pus; if the Spittle has been from the Beginning very bloody, of an entire yellow, or white and round, very frothy, not allaying Pain, if dark-brown, filthy like unto Lees of Oil, black, growing livid, uneven, and rusty; if then neither the Fever has abated, nor the Breathing mended, he dies on the seventh, or ninth Day: and you may see Death coming on apace, when the Pulse fails them; they grow cold all over, only their Breast, Neck, and Head are in an apparent Heat with Sweats, and the Cheeks first glow, and then turn to a livid Paleness.

849. *The Method of Cure* is to be varied according to the different State of the Illness, and the Variety of Symptoms; so that what may do Service at one time, will do Damage if applied at any other improper time.

850. If therefore, in a Peripneumony, all the Signs be present, described in (830. No. 1.), then the Physician ought to prescribe Quiet, and the avoiding of any Passions; the Air, if not naturally moist, and temperately warm, must be made so by Art; the Steam of warm Water ought

ought to be directed to his Lungs, Nostrils, Mouth, Feet, and Legs ; his Diet ought to be small, his Medicines of the cooling Kind; such as are Emulsions, Ptyfans, and Pectorals, sweetned with Honey ; and all these made more effectual, by the Addition of several Preparations of Nitre, or Saltpetre.

851. But if the Case stands as in (830. No. 2.), you must make use of all the just mentioned (850.) ; and also of emollient, cleansing Medicines, such as promote Spitting ; gentle Cordials, and Steams directed to the Parts; as before mentioned : No Bleeding must be allowed of, no Purging, no Sweating, nor any one thing that can disturb or put a Stop to the Spitting.

852. If the Case is as in (830. No. 3.), you must order gentle and loosening Glysters ; the Belly must be fomented with warm Fatus's, not spirituous : The Patient must drink, now and then, of a gentle opening Apozem ; and besides, observe all Things of the two preceding Aphorisms.

853. If it is as in (830. No. 4.), do all Things as 850, to 852.) ; and besides, bathe your Patient's Feet with warm Water : Let the Kidneys be fomented from within with emollient Glysters, and from without with wet Clothes ; and let him drink plentifully of some cleansing and gently-diueretic Apozems. *N: B.* " There is in " Oysters what will anfwer several Indications " in this Distemper, as cooling, promoting Spit- " tle and Urine : This the Antients knew; and " therefore always recommended the Liquor

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" of 'em boil'd up, to consumptive People
 " and such as were in the Cafe here before us.
 " *Tulpius*, both a famous Physician and a Bur-
 " gomaster of *Amsterdam*, in his noble and ele-
 " gant *Book of Observations*, lib. 2. cap. 8. tells
 " us the History of a Woman, who was entire-
 " ly emaciated, and despaired of, and was re-
 " covered by the sole Eating of Oysters, which
 " she happen'd to have a sudden Longing for.
 " *And myself*, upon reading of this Cure, tried
 " it in a young Man in *Deptford*, about ten
 " Years ago, in the same Cafe, and succeeded.
 " And Nature seems to shew us the Way; for
 " she hath provided a Plenty of Oysters in *E-
 " sex*, which, by a common Observation, is the
 " most invaded with Distempers of the Lungs,
 " of all others in *England*, and perhaps in the
 " whole World."

854. But if the Inflammation be recent, great,
 dry, in a strong Body, who was very well just
 before, and used to Exercise; which is described
 by its Signs in (825, 826.); in this Case, you
 must begin immediately, 1°. With a speedy and
 large Bleeding; which, according to the Degree
 of the Illness, must be moderated, or repeated,
 that the Bulk of the thicken'd Liquors may be
 less'n'd, and Room be made for such as are to
 dilute the whole Mass. 2°. You must imme-
 diately get the Patient to receive into his Lungs,
 along with the Air, softning and moistning
 Steams of warm Water, or emollient Decoc-
 tions, and foment the other Parts of the Body
 with the same. 3°. You must immediately help
 him

him with thin and diluting Decoctions, such as resolve, soften, and loosen the Rigidity of the Fibres, adapted to Inflammations in general, never omitting a due Proportion of Nitre, and Anodynes, in small Dozes, but often repeated and taken as hot as the Patient can bear ; for cold Drink is Death, or at least very prejudicial in this Distemper. 4^o. An opening, cooling Glyster ought to be given daily. 5^o. And the Patient kept to a very low Diet, cooling at the same time, and as much as possible of the vegetable Juices of cooling Herbs and Fruits.

855. If the Inflammation be great, with a high Fever, and other violent Symptoms, and has lasted already longer than three Days, and there be Signs of its tending to an Imposthument (833, 834, 835.), the Danger is always very great, though now the Illness is like to last some Time, and so to give an Opportunity for the Cure. In this Case, 1^o. You must either not bleed, or at least very sparingly, if there is some urgent Symptom that commands it. 2^o. The Diet must be low, but somewhat thickning, and of such Things as are thought to promote the ripening and digesting of the Spittle ; such are, the Jellies of Fishes, or Bones, Bowels, or any other fleshy Parts. 3^o. You must use such Fomentations and Steams that may prove softning to the Lungs, and ripening at the same time. 4^o. The fifth and sixth Days use the same Things, adding Suppings of such Liquors as may promote a gentle, beneficial Cough, and fill the Vessels ; so that on the seventh Day the

Part affected may be reliev'd by the emptying and discharging of well-digested Spittle, the Vessels being now reduced to a smaller Bulk than they were at the Beginning of the Inflammation ; and by such Method the Patient will be able to bear that great and necessary Discharge, if at the same time he is supplied with proper Cordials and Aliments. " The best Thing
 " that can be given at this Juncture, is warm
 " Barley-broth sweeten'd with Honey, with a
 " little Cinnamon."

856. If by the Signs of (835.) it appears that there is already an Imposthume form'd in the Lungs, the Physician must use all Means to break it forthwith, and to make a Discharge thereof through the Wind-pipe, and then order such Things as will cleanse and heal the Place in a short Time, before it can acquire any Degree of Foulness, or ulcerate. N.B. " The Reason is,
 " that otherwise the Imposthume may break of
 " itself unexpectedly in the Night, and choak
 " the Patient at once."

857. This Imposthume may be broke, having first duly prepared the Patient with a sufficient Quantity of soft Food, fat Broths, with oleous Wine, directing towards the Lungs the hot Steamis of Wine, Vinegar, or Euphorbium causing the Patient to halloo, cough, take flippery and oleous Medicines, putting him on Board of a Vessel in hard Weather, or jolting him in a Coach. N.B. " Hippocrates, and most of
 " the Antients, follow'd this Method constant-
 " ly : See here an entire *Recipec* of that curious
 " Observed

“ Observer of Nature, and bold Practitioner,
“ Lib. 2^{do} de Morb. §. 44. The Man who is
“ so affected, (speaking exactly of the Case
“ before us) and has now reach’d the tenth Day
“ from the Beginning of his Illness’s tending
“ to an Imposthume ; wash him with a great
“ Quantity of warm Water, and mix together
“ a small Quantity of Aron Root bruised, some
“ Grains of Salt, a little Honey and Water,
“ with a little Oil : Then pull out his Tongue,
“ and lay some of this upon it, viz. to make
“ him cough ; and if that doth not do, let
“ two or three strong Fellows take him by
“ Neck and Shoulders and shake him with all
“ their Strength. Which sort of Practice we
“ very rarely dare follow now-a-days in these
“ Countries, where it doth carry a Face of
“ Roughness and Cruelty.”

858. As soon as, by certain Signs, it is known that the Imposthume is broke, you must confine your Patient to a Milk-Diet, allowing him only the softest Kind of Vegetables, and such as do not easily rotten, such are Turnips, Parsnips, and the like; (avoiding all sorts of Cabbage, except the Red). In the Day-time give him detergent Decoctions gently loosening, made of Scordium, Marrubium, the opening Roots, &c. but at Night very gentle Opiates, never exceeding half an Ounce of Diacodium : And he must continue the Use of softening Steams, take the Air on Horse-back, in a Chaise, or in a Boat.

859. But if, by the Signs of (838.) it appears that the Case is already as in (837.), but no Cer-

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tainty whether the Matter is going to remove it-self ; then you must bid your Patient to keep very quiet, and his Strength and Spirits up with a light Diet, chiefly Spoon-meat gently spiced, allowing a small Quantity of proper Wine. Let the Medicines be at that time emollient, but of the least apperient Clas; solace the Lungs with soft Pectorals ; and thus, in a little Time, the Matter will have determined itself to one Place or another ; or being made more fluid, it will empty itself its proper Way, by Spitting.

860. But if with the Signs of (838.) those of (839, 840.) be also present, whence you are sure that the Matter has already removed itself, then do what has been just now mentioned (859.), and work upon the Place where you foresee (839, 840.) that the Matter is going to work itself through, by sucking with dry Cupping-glasses, made of Horn, or Iron, or Glaiss ; by loosening the Part with Cataplasms ; by stimulating, by drawing or blistering Plasters ; " Which applied to the Legs, do at all times ease the Lungs greatly, and do promote Spitting, and relieve difficult Breathing ; " by such Openers as of themselves, or with the Help of the rest, may facilitate the Discharge in that Place.

861. If the Case is as in (841.), do the same Things as in (859, 860.) ; then you must exhibit such Medicines as are more Opening, and of a soapy Nature, or even Castle-soap itself, in a Draught of Milk : Such are said to purge the Liver, viz. " All Compositions that have Rhubarb in them, and are at the same time diuretic,

" diuretic, and somewhat chalybeat : Glysters
" and Fomentations repeat daily."

862. But the **Cafe** as in (843.) doth rarely admit of a **Cure**, unless it be by continuing long together the Use of emollient Medicines, outwardly and inwardly ; by riding on Horse-back, or any other constant travelling Carriage ; and even by this you can only flatter yourself to make it somewhat easier, and to put off the evil Day for a While.

863. If it be already changed into a **Gangrene** (844.), it is altogether incurable.

864. But if the **Peripneumony** had already begun to go off with a **Spitting**, and that the same doth stop ; then all Hands must be set to work to bring it back again : This will sometimes be occasion'd by a sudden cold Air let in upon the Patient, a great Drying come on from various Causes, a hot Fever coming on afresh, heating Medicines or **Cordials**, a Looseness which is not critical, great Sweating, and a violent Passion.

865. Then will the neighbouring Parts immediately be invaded by a fresh **Inflammation** from the **Stagnation** and **Collection** of the peccant Matter, and from thence all the **Symptoms** of the original Beginning **Peripneumony** (825, 826.) : And whereas this comes now upon a Body weaken'd already with the former, it generally kills in a little Time.

866. The Remedies for this fatal **Relapse**, and its Consequences (865.), are, to mollify the Lungs in all **Haste**, as well as Mouth and Nose,
and

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and moisten them with continual Steams, and even making the Air of the Room to be constantly like unto them ; to give the Patient large Draughts of the same thin and warm Liquors, as said before, chiefly with Honey and Vinegar ; gentle Diaphoreticks, that may gradually resolve and dissipate this new Inflammation ; such as is *Antimonium Diaphoreticum*, with some Grains of *Nitre* ; gentle Opiates ; and with all possible Care to avoid Sweating ; nor suffering the Patient, by any Accident, to be frighten'd, or put in a Hurry. " All these Things here mention'd must be tried instant-
ly one upon the other ; for unless some one doth take Effect very speedily, your Patient dies in a few Hours."

Of the spurious Peripneumony.

867. That Sort of Peripneumony which happens often in the Winter from Cold, or in the Spring from too sudden a Heat coming upon cold Weather, doth usually proceed from a slow Phlegm spread in the Blood throughout the Body, and occasioned by the spontaneous Glew described in (69, 72.), which gradually lays hold of the Lungs, 'till it unawares passes into this dreadful and often mortal Disease.

868. When this Evil is somewhat increased, it has already produced in the whole Body several Effects (72, to 74.) ; and besides them, such also as are usual to a slow Peripneumony (825, 826.) ; whence it appears to be very difficult to cure.

869. For

869. For if you let Blood in that Quantity as the Nature of this Disease requires (854.), you do a great deal of Damage, because of the Weakness of the Bowels, and of the Liquids being too sluggish, and not fitting the Vessels ; whence the same seems to be beneficial at first, but soon proves hurtful, and increasing the Disease in most Circumstances.

870. As to the attenuating Medicines, which in this Case are so much extoll'd by some, they rather increase the Degree of Thickness, and drive the stagnating and obstructing Bodies farther in, as they increase the Force and Motion of the Humors in and upon the Lungs ; and they consequently, by so doing, soon render the Disease mortal.

871. This Disease is common to aged, phlegmatic, cold People, such as have Defluxions and Rheum falling from the Head ; it usually invades upon any Occasion ; which, by moving the stagnating Fluids too suddenly, make them fall upon the Lungs ; such as Running, Declaiming, Singing, Drunkenness, chiefly occasioned by very hot or spirituous Liquors, Junqueting, the Heat of the Fire, Bath, or Sun, chiefly if a great Cold follows this Heat suddenly.

872. By its deluding Gentleness, it destroys such as scarce thought themselves ill ; for beginning with a small Weariness, Weakness, a general Prostration of the Motions of the Mind, a Difficulty of Breathing, and an Oppression of the Chest, it causes such small Motions, that there

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there is scarce enough Fever or Heat to warn you of the Danger : Afterwards come on, by Fits, uncertain Shiverings, and slight Fevers; upon which the Difficulty of drawing Breath, and Weakness, follow ; and sudden, but unexpected Death, of which there was hardly any Sign either in the Urine, or in the Pulse.

873. It's cured by this most prudential Method, 1^o. Let the Patient first be blooded out of a large Vessel. 2^o. Let a Glyster be injected daily, 'till it appears, by proper Signs, that the Lungs are eased. 3^o. Let his Diet be of thin Flesh-broths, with some Juice of Lemons or Oranges ; his Drink also small, of Water and Honey. 4^o. Use the Steams and Smoaks describ'd in (866.), diluting, cleansing, and gently opening Apozems in large Quantities ; bathe the Legs and Feet, and lay on many and large Blisters. " Our Author has forgot here, what " he cannot but approve, chiefly if done in the " Beginning, and is scarce ever omitted by any " Physicians in *England* ; I mean, either a " *Vomit of Oxymel of Squills*, or a *Linctus* made " up with the same, instead of other pectoral " Syrups."

874. From all these (820, to 874.) Reasons may be given, why this Disease happens seldom to Children and Women ; and likewise why it scarce ever seizes those People whose Solids are of a looser Contexture : Why it is easily cured in them, and almost without any Help ; and why so difficultly in strong and exercised Bodies. From the same it is plain also, why
this

this Disease comes as a Symptom in most other Diseases just before Death. So that a Peripneumony is the proximate Cause of Death, and the last Effect of almost all mortal Diseases.

Of a Pleurify.

875. A Pleurify is said to be present, when the Patient is afflicted with an acute continual Fever (564, 567.), with a hard Pulse, an acute inflammatory Pain and Stitch (383. No. 3.) much increased upon breathing-in the Air, and milder in the breathing-out, or while the Patient gently keeps in his Breath, gentler also when he performs Breathing without moving the Chest, but chiefly by the repeated raising and lowering of the Belly ; he coughs almost incessantly, which, because of the violent Pain it causes, he strives to suppress.

876. Whenever at the same time he spits such symptomatical Spittle as is common in Diseases of the Lungs, it is call'd a *moist Pleurify* ; when that is wanting, 'tis a *dry Pleurify*.

877. There is no Part of the internal Integuments of the Chest which is not capable of being seized therewith ; the whole Pleura therefore, the whole Midriff : Hence its Seat may be in the fore or back Part, right or left Side, higher or lower, more outward or deeper Place equally ; but most commonly in the Sides.

878. But when the very Membrane, which doth beset all the Ribs inwardly, is the Seat of Pain, then is it a *genuine Pleurify* : But if it be higher,

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higher, and the intercostal Muscles, and those which are higher than them, be affected, it's call'd *a spurious Pleurisy.*

879. It chiefly invades grown, sanguine People, such as have eat or drank much, or taken violent Exercise; as seldom belch sour, prone to inflammatory Diseases; in the Spring, chiefly when the same grows suddenly very hot after sharp, frosty Weather, or in the Winter, when the Wind blows sharp out of the North-East, and then it is call'd an *Idiopathic Disease*; that is, an Original one, not owing its Cause to any other more principal Disease.

880. But if the same arises from the Cause of another inflammatory Disease moving and translated to the Places described in (877, 878.), then it is a *symptomatic Pleurisy.*

881. It owns for its antecedent Cause, 1º. All what is apt to produce an Inflammation of any Kind (375, to 380.) 2º. Whatever doth direct the Cause of it chiefly to the Pleura; which depends most on the Constitution of the Patient, the Narowness of the smallest Arteries of the intercostal Muscles, and their Rigidity; a fore-going Distemper, which has left a Disposition towards those Effects, such as is a Schirrus of the Pleura, or a Callosity of the same; an Adhesion of the Lungs to the Pleura, (which is observ'd to be frequent in most Northern Climates) the Nature of a predominant epidemical Disease; a cold Air driven violently through some narrow Passage upon the naked Body, before over-heated by Labour or Fire; very cold Drink taken

taken suddenly when the Body is dispos'd in the same Manner as aforesaid ; a cold, frosty, Northern Air in the Winter. 3°. A Deposition of an inflammatory, ichorous, and suppurating Matter, first predominant in the Whole, or in some Part, and then, from any Cause whatever, deposited or translated into this Part ; as it will happen in the Measles, Small-Pox, ulcerous Tumors, great and wide Ulcers suddenly disappearing, the Matter thereof being suck'd up by the Veins.

882. This History (from 875, to 882.), its Course to be expounded presently (from 883, to 907.), and the dissected Bodies of such as have died of Pleurisies, do clearly intimate, that it is an Inflammation of the Blood (371.) in the small Arteries of the Places mentioned (877, 878.), occasioned mostly by a preceding acute Fever.

883. Hence (881, 882.) the History of this Disease may be clearly deduced : It begins with a Desire of Feeding, which is often very great, with a Coldness, Shivering, Weakness, Weariness, and a Fever : It goeth on with a Heat gradually increasing to a Burning, a Drought, an entire Loss of Appetite ; a Pain, from being light, increasing 'till it becometh very violent ; Breathing much vitiated : When in its Force there is a violent Fever, but less apparent, because the Patient holds his Breath as much as possible, and is almost suffocated upon Account of his endeavouring to suppress the most violent Pain, which he could not but feel, if he should breathe

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breathe out ; which often deceives the Physician, much to his Dishonour : Then doth it terminate variously, according to the several Causes, but chiefly the different Changes of the Inflammation. (See 386, to 393 ; 492, to 500.), the different Nature of the Place which the Disease has laid hold of (877, 878.), and the Consideration of those Circumstances ; according as more Places (877, 878.) are affected at once ; as the Motion of the circulating Liquor is more violent, (see 92, to 102.), or the Malignancy of the very principal Disease is greater (564, 567.), so are the several Symptoms worse, and chiefly do the Defects of Breathing and Pulse more widely differ from the natural State of both, as likewise do Spittle, and other Excrements.

884. It terminates in Health, other Diseases, or in Death.

885. Into Health, by the Help of kind Nature, or by Physic in the Beginning, while the Disease is yet in its simple State.

886. It is cured with the Help of Nature, or a kind Resolution, or a Concoction and Excretion of the morbid Matter.

887. By a Resolution, if the Causes of (386, 401.) do concur at the same time ; and then doth the Lenity of Symptoms inform, that nothing is necessary to be done, but to keep the Patient to a thin, spare Diet, and the gentlest Openers ; which, together with soft Fomentations, will ease the Pain, and help to remove the Cause.

888. By

888. By a Concoction and Excretion of the Cause it is cured, chiefly observing these Things,
1°. As often as the Piles do let out a sufficient Quantity of a well qualified Liquid and at seasonable Times. 2°. As often as the Patient has voided a great Quantity of thick, hypostatic Water, *with a Strangury*, “N. B. I have been an Eye-witness how Dr. Boerhaave seventeen Years ago did in an Hospital at Leyden prognosticate the Recovery of a Pluritic Patient, who did complain of a Strangury, not from any Blisters, or any other Medicines, and that it actually fell out as he did foretel us.” When the same has been pretty high colour’d with a white Sediment before the fourth Day, and that the Symptoms did at the same Time abate: which Sort of Urine has also cured a dry Pleurify. 3° If the Patient voids by Stool a great Quantity of yellow biliary Matter before the fourth Day and is eased thereby. 4°. If ichorous, purulent, and fistulous Imposthumes, running long, and begun before the sixth Day, have shewn themselves behind the Ears, or in the Legs according to (837, to 843.) 5°. If the Pain in the Side is removed to the Shoulder, Hand, Back, with a Numbness, Pain and Heaviness of those Parts. 6°. If the Patient spits plentifully from that Part, and is eased thereby, Without a Rheum at the Nose, in a great Quantity at first like Matter, but soon changing into white, or before the fourth Day; continuing all along or not being long suppressed without returning as before; for then you may ex.

perf a Cure on the ninth or on the eleventh Day.

889. When the Signs duly observ'd do confirm that the state of the Pleurisy is such as just now described (888.) then ought the Physician to endeavour at no Change, but only to continue and to encourage all spontaneous Evacuations or Translations of the morbific Matter. Bleeding therefore is not proper here, neither ought any other kind of Evacuation or Alteration to be made. But, 1°. Use a soft thin Diet; let Body and Mind remain quiet; the Air be made temperately warm and moist; the Sleep be natural or procured by gentle Paregorics; and all Medicines be soft, small, and gently opening. 2°. All proper Evacuation which appears in each particular Case to be beneficial is to be encouraged and help'd; so that in the Case of (818. N^o. 1.) the Anus ought to be fomented with a soft, loosening and aperient Fustus, or if that doth not answer, Leeches must be applied to the hemorrhoidal Veins, till they have suck'd a good quantity of that gross Blood. If it is as in (888. N^o. 2.) the like Fomentations ought immediately to be applied to the Loins, the Perineum and the lower Belly; gentle, opening Diuretics to be given; the Air made somewhat cooler; Sweats and other Evacuations to be avoided; soft, diuretic Glysters, with some Turpentine, to be injected. But in the Case of (888. N^o. 3.) the like emollient Fomentations must be used all around the Abdomen; loosening Glysters injected; a loosening

Diet

Diet order'd. When the fourth State of (888.) is present, foreseen from (838.) and that the Place as in (839, 840, 841.) is also known, then ought to be put in Practice the Means mentioned in (859, 860, 861.) making an opening, and keeping the same open for some Time by suppurating Medicines. In the Case of (888. N^o. 5.) besides the Means common to the preceding, the Parts into which the Pain is remov'd, must be fomented with soft and warm Decoctions, to be gently rubbed, and stimulated with gently drawing Plasters. Lastly, in the sixth of (888.) all things ought to be done which were advised in a kind Peripneumony, and consequently all things be brought hither from (850, 851.) and executed.

890. *But a Pleurify is also cured by Art without any remaining Illness after it, chiefly by this Method; if the same Pleurify be recent before the End of the third Day, yet violent from the many and strong Symptoms (875, 883.) and dry (876.) in a strong, exercised, dry Body, without the Hopes or the Presence of (887, 888.) then let the Patient immediately be blooded largely, with a quick running Stream out of a great Vessel, and a large Orifice, keeping his Body quiet and leaning backwards, enforcing his Breathing all the while with Coughing or Panting, fomenting the Side at the same Time, and gently rubbing it; which bleeding ought to be continued till the Pain seems to abate pretty considerably, unless a fainting Fit forces you to leave off sooner; at whose*

Approach the Vein must immediately be stopped. Bleeding ought to be repeated according as these Symptoms do return, upon whose account it was done the first Time; and when that Skin (384.) doth not any longer appear upon the Surface of the Blood, it is time to forbear more Bleeding. 2°. From the Beginning ought to be used Fomentations, Bathings, warm Steams, Liniments, Plasters, and the like; which may be of use as they loosen, resolve, mitigate, and avert. (See 395. N°. 6. 398. N°. 3.) 3°. Then ought those Medicines to be administred, which dilute, resolve, loosen, mitigate, cool, ease Pain, or lay it asleep: which do help being taken warm, moist, and in great Quantities, and are to be varied according to the different Changes and Faces of the Disease; always chusing such as are the most contrary to Putrefactions. 4°. There is occasion for a small, soft, cooling Diet contrary to Inflammations. 5° Every thing is to be avoided, which is drying, heating, increasing the Motion of the Blood; such are the Heat of the Air, Sun, Fire, Bed, Diet and Medicines.

891. The Continuance or Repetition of all which (890.) is to be learn'd from the Obsturacy of the Disease or its Remission and Transition into perfect Health (888.)

892. A Pleurisy terminates into other Diseases, 1°. When the inflamed Place doth suppurate, of which we know the time. α. By the general Signs (387. 402.) β. The Obsturacy of the Pain, Cough, and Fever, lasting beyond

yond the fourth Day. γ. The Absence of the Signs of a Resolution (887.) and of an entire Cure (888.) δ. By knowing that the Means laid down in (890.) have been neglected.

893. That this Imposthume is already gathering, is known from the general Signs in (405.) but chiefly in this Case from a Shivering often returning without a Cause, and from the Signs set down in (834, 835.) concerning the Peripneumony comparing these with the Time that the Disease has lasted: hence we may also know when it is perfected, and it is sometimes evacuated through the Lungs by Spitting.

894. But *this Imposthume will be broke by the Weight of its own Matter*; whence the Pus falls into the Cavity of the Chest, the Ulcer by the Production of more new Matter still heap'd on the first, fills up the whole Cavity, consumes all the Flesh and Substance of the whole Body: that this has happen'd is known from the just mention'd Signs in (892, 893.) the Continuation of the Disease until the fourteenth Day; from a sudden Relenting and quick Return of the Symptoms whence a Consumption.

895. If therefore we know by the Signs of (892, 893.) that the inflamed Part is imposthumating, the Place where the Pain was, being carefully noted, must be pierced with Caustics, and an Incision made about as deep as the Pleura, and kept open with suppurating Medicines, that the Matter being thrown and turn'd toward the Outside by the Power of the Lungs

may leave the Pleura whole, and so an Empyema be prevented: then ought the Place to be fomented and moistn'd till it be entirely cleansed. " I succeeded beyond Expectation in this very Case about nine Years ago, with the Son of one Mr. Jackson in *Virginia Street*, who from a *Worm Fever*, ill treated, fell into a *Hectic* one, which for six Months together gave way to no sort of Application, directed by another Physician and my self; till happy ly for the Boy, on the very Day I was there to take my leave (taking his Case to be incurable) he suddenly, and the first Time complained of a Pain in his Side; upon which, renewing my Attention, I directed only a Plaister of *Pix Burgundica*, which in a few Days drew the Imposthume, that was betwixt the Pleura and the adhering Lungs, to a Head, and broke it; when I commited the Child to the Care of a Surgeon, who kept it open several Months, during which the Child drank Afs's Milk and gathered so much Flesh and Strength, that the Wound was healed up, and a perfect Cure obtain'd; himself and his Parents being yet living Witnesses. It seem'd a little surprising to me that no Body about the Child had ever observed him to complain of a Stitch or Pain in the Side, but by the strictest Enquiry I found it fact; nor had any of all the Medicines, applied by the former Physician, been intended against any such Cause or Symptom.

896. But if from the Signs of (302. 894) it is plain that the Imposthume is broke inwardly, and the Pus has alreay form'd an Empyema, then ought the Chest forthwith to be opened (303. N^o. 5.) the Matter to be let out (303.) and the Wound to be heal'd up again by means of a good Diet and useful Medicines.

897. *It also changeth into another Disease,* when the affected Part is grown schirrous or callosus, or if the Lungs adhere to the Pleura; which when it happens, there ariseth an Asthma, Difficulty of Breathing, a dry Cough, chiefly after Meals and Motion; which Symtoms teach us that to be the Case; if they are present without the Signs of an Imposthume (893.) or an Empyema (896.) and chiefly, they last long without any considerable Alteration for the worse.

898. When this is known to be (897.) it is either altogether incurable, or can only be removed by a laborious and hard Life in a free, open country Air and hard Riding continued long, and frequently used.

899. *This sort of Inflammation also changes into a Gangrene,* first of the Side, but soon after of the Lungs themselves, because of their Neighbourhood (844.)

900. Which Evil (899.) proceeds either from the Violence of the Pleurify, or the sharp or putrefied concomitant Matter.

901. That this will be, or is even begun, may be foreseen from many Signs; if the purulent Spittle be somewhat tainted with Choler,

round, purulent with some Streaks of Blood, black and footy, like Lees of Oyl, stinking; if there be a great rattling in the Chest with a sad Countenance, the Eyes red and yellowish, with seeming Dust in 'em, and dim; if the Spittle be in the Beginning of divers Colours; then do they often die on the third or the fifth Day. If the Patient snoars much in his Sleep, spits nothing, or with Difficulty, the Pulse be languid, the Urine extreamly high colour'd: if there be a Loosness with watry, stinking, rotten Stools, and it be symptomatic, not critical, nor easing; if a violent Inflammation of the Lungs comes at the back of it: if a Relapse of the Pleurify: if the Blood coming out of the Vein appears very florid without the inflammatory Crust (384.) notwithstanding its Discharge through a large Orifice, flowing briskly and received in a clean Porringer: if Spitting be suppressed, leaving the Difficulty of breathing behind, and that even increased with a Pain and Heaviness in the Chest, a hard, small, quick Pulse and a great Heat; all which being grown much worse on the fifth Day do kill on the seventh: if the Urine is very red, dark, with a settling of mixed and various Colours, and not entirely separating at the Bottom or the Sides, that kills within fourteen Days: if the Sediment be black, or broke into small Particles like Bran, the Patient dies sooner: if the Pleurify is gentle in the Beginning, but grows worse on the fifth or sixth Day, the Danger is great on the seventh and twelfth Day, and they seldom do well unless they can overcome

come the Struggles of the fourteenth Day. If the Back, Sides, Shoulders, are heated with a Redness and a great Anguish, green loose Stools and very stinking; if the Pleurify be *a dry one*, because of the Want of Strength, because of the Greatness of the Pain, of the Unfitness of the Matter for an Expulsion, because of the too great Contraction and Shrivelling of the Vessels, because of the too great use of hot Means, and if the Pain at the same time doth rise up higher: if the Tongue is from the Beginning dry, foul, livid, black, with a black Blister or Pustle upon it; if any one of these Signs be present singly, or more of them together, the Disease is most times mortal of it self; if cured sometimes, it is with the utmost Difficulty, and most times kills by a Gangrene of the Side, or of the Lungs situate just near it.

902. But when from those Signs (901.) it is plain that this Evil (899.) is already impending; the Physician ought boldly to try all the most powerful Means immediately, not relying upon the Strength of Nature, nor common gentle Means; it is no matter how low he brings him, if he but saves him.

903. In this case (902.) therefore the Physician ought immediately to burn the affected Part to the quick with a red hot Iron, and the Crusts ought afterwards to be cover'd over with strong Cleansers, and often be heated and constantly kept warm, with the most penetrant Fomentations; and the Patient ought besides to take inwardly strong Diluters, Openers, such Things

Things as are contrary to Putrefactions; and sweating Medicines in great Quantities. For these things, if any will allay the Fierceness of the Disease.

504. But if the Cause of the Inflammation be the most violent, and has created the highest Symptoms incident to Pleurisies, which give way neither to the Helps of Nature (887, 888.) nor to any Remedies useful in Pleurisies (890. 903.) and that the same be afterwards suddenly removed without any Cause, (as they did depend from the Nature of Inflammations) the Pulse continuing small, quick, and intermitting; the Breathing also quick and small, with cold Sweats; it is then apparent and certain, that a Gangrene has already laid hold of the inflamed Parts. Hence you must soon expect the Patient to grow delirious, and then shortly to die; chiefly if at the same time the Outside of the Chest be of a livid Colour from the Stagnation of the Blood in the capillary Vessels: which is also the Event, when he that spits a bilious or yellowish Spittle, is eased of his Pain without any reason; for then also soon appears a mortal Delirium, the Messenger of Death, occasion'd by a Gangrene.

505. A Pleurify terminates also into Death, when its Causes are so powerful, that the Pain, suppressing entirely the Motion of the Chest, soon creates a mortal Peripneumony (848.) destroying very suddenly, by hindring all Passage of the Blood through the Lungs.

506. Hence

906 Hence it is easily understood, why a Peripneumony never fails of succeeding a most violent and fierce Pleurify; why that is generally mortal to old People, Women with Child, or in Child-bed; why the Girding of the Tho-ax with a Bandage doth relieve Pain so much in this Case, as even to make the Disease sup-
portable. N. B. "I had about six Years ago the good Fortune to save the Wife of an Apothecary in *Deanstreet Soho*, who had a Pleurify just before she was brought to Bed, which continued for several Days after her Delivery; the Matter whereof was twice translated, first towards the Liver, and afterwards with a greater Violence than ever to the opposite Side of the Chest and the Shoulder (See 888. No. 5.) when she was brought so low by one necessary Bleeding, that every Body expected her Death suddenly, but yet by successful Means has recover'd to my own Surprise and every Body's else so perfectly, that she has had some Children since.

Of the Paraphrenitis.

907. If a Disease like to a Pleurify doth in-
vade that part of the Membrane of the Chest
(the Pleura,) which doth surround the Dia-
phragm or the Midriffitself, there ariseth a most
stupendous Disease call'd *Paraphrenitis*.

908. Which is more common than is gene-
rally believed, though it be seldom discovered
when present, is neglected, or is treated by
some other Name.

909. In

909. It is known, by a most acute continual Fever; an intolerable inflammatory Pain of the Part, because of its very nervous Membranes; which Pain is horribly increased upon Breathing, Coughing, Sneezing, Fulness of the Stomach, Nauseating, Vomiting, pressing of the Belly, upon going to Stool, or making Water; whence the Patient draws his Breath high, small, quick, almost with a Suffocation, the Belly not moving, but only the Chest; he is perpetually light-headed, his Hypochondria are lifted up and drawn inwardly, he has a convulsive Laughter, Convulsions in other Parts, he grows furious, and the Part gangrenes. "N.B. "Under this "Head of Convulsions, we must rank a most "obstinate and painful Hiccough, which is peculiар to this Case.

910. The Event is the same as in a Pleurisy (884, 892, 896, 897, 899,) but, because of the great and constant Motion of the Part, of its Necessity to Life, of the Nervousness of its extended Membranes, all things are quicker and more fatal; and from hence a large Collection of purulent Matter in the Abdomen, not unlike an Ascites.

911. The Cure therefore doth require the same Distinctions and Cautions and almost all the same Remedies, excepting such as the Situation of the Part doth not admit of. Emollient Glysters are often very beneficial, because of the Neighbourhood of the Parts, performing as it were the Office, and supplying the Room, of Fomentations and Bathing.

912. But

912. But when the Diaphragm is imposthumated after its preceding Inflammation, if the Imposthume breaks on the Side of the Belly, and empties its Matter therein, there happens a Gathering thereof in the Abdomen, a heaping up of the same, a Putrefaction, Tumor, a Corruption of the Bowels, a very bad Sort of Consumption, and Death.

913. And this Evil is incurable in all its Circumstances, THOUGH THE NATURE AND CAUSE OF IT BE VERY WELL UNDERSTOOD.

Of the Inflammation of the Liver, and the several sorts of Jaundices.

914. As other Bowels and the Parts we have been treating of, so is the *Liver* likewise capable of Inflammations; though it is seldom thought of, and perhaps is not so frequent because of the smallness of the hepatic Artery, and the weak Motions of the Blood in the *Vena Portæ*.

915. Its Seat therefore is in the Extremities of both the just mentioned Vessels (914.) which carry the Blood into the Body of the Liver after the Manner of all other Arteries, and with the same Effect; so that this Inflammation of the Liver, as well as that of the Lungs, is twofold as to its Seat and Origin; but yet so, that the one soon produces the other.

916. Both Sorts are preceded by the like Causes; to wit, the general Causes of all Inflammations (375, to 380.) directed chiefly to these Parts; next by some which these Parts are most disposed to; which are many, and such as

as follow; the great Fatness of the Call, the atrabilious Temper of the Blood and Choler; the Acrimony of a somewhere stagnating, purulent, ichorous, or scorbutic Matter: If to these are added a Heat, Fever, Motion, Diet, Remedy, or Venom, which do melt, move, and direct them towards the Liver, a fat, sharp, adust Bilis put in a violent Motion by its proper Causes; Stones, chalky Matter, a Schirrus, a Callus, Steatom, Imposthume, Cancer, or Worms besetting, pressing, or squeezing some part of the Liver, of the Gall-bladder or the Passage of the Bilis; if any one of the forementioned Causes doth awake and stir them; a sudden Perception of a great Coldness upon the Liver (after its being very much heated) proceeding either from the Air, Drink, or Swimming in cold Water; a long continued Thirst during a great Motion, Heat and Sweating; a burning Fever, with a Denial or Want of Aliments and Drink: great and violent Perturbations and Hurries of the Mind; great Comotions occasioned by Vomits; and Diseases of the Hypochondria of a long standing.

917. Inflammations produced by so many different Causes have also many different Effects, according to the various preceding Disposition in the Liver itself, and the variety of the moved and inflamed Matter: And lastly, according to the Difference of the Cause which drives them all on.

918. But whilst it follows the common Course of Inflammations, it obstructs the small Vessels,

Vessels, stops the Fluids, raises a Tumor, presses upon the adjacent Parts, and there occasions the same Disorders as in its own Body ; then it gradually enlargeth, occupieth almost the whole Liver, offends the Stomach, and suffers Pain from its Fulness, and so doth the Midriff ; it hinders the Influx of the Blood from the cœliac and both the mesenteric Arteries, and stops it just at the going into the Liver ; and consequently hinders all the venous, arterious, and lymphatic Liquids wholly from flowing into the first Bowels of the Abdomen : it destroys and inverts the Generation, Secretion, Excretion, Circulation and Office of the Bilis ; produces a Jaundice and its Effects; a Putrefaction of all the Liquids and Bowels of the Abdomen : whence innumerable Evils.

919 This also terminates either into Health, other Diseases, or Death.

920. It terminates into Health, either by the Help of kind Nature, or skilful Physicians.

921. By the Help of Nature, either by Means of a kind and gentle Resolution, or the Coction, and then the Excretion of the morbid Matter.

922. By a Resolution, if the Matter be recent, soft, and the other Conditions of (386.) be present ; then doth Art assist this Work of Nature with diluting, solving, gently moving it, by Epithemas, Drinks and Glysters.

923. By a Concoction and Excretion, whilst in this Disease, known by its proper (916, 917, 918) Signs, 1°. The Patient is somewhat loose and his Stools are yellow (from the voided Choler) and a little tainted with the Blood before
the

the fourth Day. 2°. When he makes a great deal of Urine, which is sharp, thick, red, with a whitish Sediment, long thus continued before the fourth Day. 3°. When a lesser Pain invades the Spleen before the Signs of the Liver's imposhumating. 4°. When he falls a bleeding a great Quantity out of the right Nostril. 5°. When he falls into Sweats, which the Physician has Reason to think beneficial from the Nature of their Matter, Place, Time, Continuation, and Effects.

924. When the first (923. N^o. 1.) appears; those Things ought to be administred, which are able to dilute, resolve, move, cleanse, gently to expel and chiefly able to resist and conquer a biliary Putrefaction, whether in the Form of Epithemas, Glysters, Fomentations, Drinks, Aliments, or other Medicines.

925. If it be as in (923. N^o. 2.) you must use those Means of (889.) which were laid to cure the Case as in (888. N^o. 2.) adding to them some Ingredients of a soapy and deterfive Faculty.

926. In the third Case (923. N^o. 3.) do the same things as in (924, 925.) but at the same Time apply Fomentations of the same Nature, all the Way from the Liver to the Spleen, and upon the Spleen itself.

927. In the fourth Case (923. N^o. 4.) foment the Nostrils outwardly and inwardly with some emollient, lukewarm Liquid, to encourage Bleeding, till the Symptoms are eased; but then, if it continues to flow in too great a Quantity, it ought to be stopp'd gradually with Stiptics and

and a cool Diet ; but take care not to be too hasty.

928. In the fifth and last Case (923 N^o 5.) supply the Patient with large Quantities of diluting Apozems, which at the same Time be gently cleansing and abstergent.

929. And all along while you are doing some or all that is set down from (924, to 929.) take a continual Care, that nothing of the morbid Matter remain in the Part affected ; for that creates afterwards almost insuperable Difficulties. And thus have we seen, how the first kind of Jaundice, which is also the mildest, may be cured.

930. If the Inflammation of the Liver be recent, violent, and without the Signs and Hope of (922, 923.) it ought to be treated with the same Cautions, Remedies and Method as a Pleurisy (890) Paraphrenitis (911.) and such like Diseases ; but that the cooling emollient and gently loosening Apozems drank or injected, are in this Case of an admirable use.

931. The Signs of Health entirely restored are, when all Yellowishness is entirely gone out of the Eyes, Face, Urine, and Stools, and the Symptoms of (918.) have ceased.

932. Whence are known the Origin, Nature, Effects, and the Cure of the second sort of Jaundice, worse than the former.

933. But if the Inflammation of the Liver (914, 915.) the Remedies of (922, to 931.) are not, or too late, or in vain applied ; the Cause be greater and more vehement ; then will fol-

low an Imposthumation of the Liver (387. 402.) like unto others, but that a good Pus can seldom be expected here but in the small and outside Parts, the inside being very full of Blood and biliary stagnating Matter; so that most Times follows a most fatal Putrefaction of that noble Entrail.

934. This is foreseen, 1°. From the Signs of a precedent Inflammation of this Part; an inflammatory Pain; a yellow Jaundice shewing itself in the Eyes, Skin, Urine and Stools; an acute Fever. 2°. From the Absence of a Resolution (922.) of an Excretion of the concocted Matter (923.) or of a Cure (924, to 933.) 3°. From the Change of Symptoms; the Abating of the acute Pain; a Throbbing succeeding thereon; the Jaundice remaining; wandering and uncertain Shiverings. 4°. From the Inflammation, which was not of the very worst Sort, lasting more than three Days.

935. We know the same to be made already, 1°. From the Signs of (934.) having preceded. 2°. The apparent Tumor of the Place. 3°. The Change of Symptoms, so that instead of Pain, The Part now feels heavy, and the Jaundice remaining. 4°. The great Weakness, a little hectic Fever, and a great Drought.

936. This Imposthume either, 1°. Doth eat through the whole Liver. 2°. Or breaks into the Cavity of the Abdomen, and lets out its foul and sanguous Matter. 3°. Either through the biliary Vessels into the Guts. 4°. Or through the Vena Cava into the Blood. 5°. Or by raising a Tumor grows to the Peritoneum, and forms

forms there an outward Imposthume of the Liver, to be discern'd there.

937. When the Liver is consuming after a long Struggle, with a slow icteritious Wasting, with a continual small Fever, an intolerable Thirst, prodigious Weakness, an inexpressible Anguish, the Urine almost black, a Tympany, a Loosness with fainous and very fætid Stools, he dieth.

938. Which Case (937.) when come to this pals, doth admit of no Cure, and hardly of any Palliation; and this is another sort of Jaundice.

939. If there be *Ulcers* made in the Liver, and that breaking they have already shed their Matter into the Cavity of the Abdomen, they continually increase there the Quantity of Pus, convert all the Liquids and the Nourishments of the Body into new Pus, putrefy all the Entrails, and thence create an Ascites in the deceitful Shape of a Tympany; whence follows Death after a slow and most cruel Wasting and its Symptoms; this Case is almost like the foregoing in (938.) and this Jaundice is curable by no manner of Means.

940. But as often as the suppurated Matter and Ichor, after having eat through the Ends of the bilious Ducts, doth flow into their greater Receptacles, and thence into the Intestines, according to the different Way they take, they produce either fætid Vomitings of putrefied, purulent, ichorous, white, ash-colour'd, tawny, yellow, and black Matter, or Stools of the like

Nature, with the greatest Loss of Strength, which go by the Name of colliquative loose Stools, and do kill in a small Time. This is yet another sort of Jaundice, much to be apprehended.

941. But if these Matters and Liquids (940.) do throw themselves through the consumed Extremities of the Vena Cava into the same, and thence into the whole Mass of Blood, and mix therewith, there arise the most dreadful and soon destructive Symptoms ; frequent and most frightful Swoonings ; extream Weaknesses ; the Pulse is disorder'd all manner of Ways ; a Disturbance and Confusion of all the Functions at once ; a sudden and unexpected Death. This is still another and different sort of Jaundice.

942. In which Case (941.) no sort of Method or Medicines will avail any thing ; but a large Supply of such as do support Strength, resist Putrefaction, and restore the lost Liquids ; all these help a little.

943. But if it be the last sort of Imposthumations (936. N^o. 5.) then ought the Tumor well mark'd out to be open'd with the burning of Flax upon it (as the Ancients commonly did) " or with a burning Iron (or Sticks burnt " at the Ends as they yet practise in *Africa* by " the Report of Travellers) or with Caustics ; " the Wound then ought to be widen'd with gentle Corrosives and suppurant Applications, until it has penetrated into the very Bag or Vomica which is in the Body of the Liver.

944. If then the Pus, which comes out, be white, even, smooth, void of any Smell, not colouring the Probe, there are Hopes of a Cure: it ought then to be treated as an Ulcer (402, to 413.) and cleansing internal Medicines to be administred at the same Time.

945. But if the same be yellow, tawny, livid, black, fœtid, colouring the Probe with a sort of Rain-bow Colours, fanious, and like unto a filthy leeish Ichor, the Liver will be eaten through by Degrees, the Patient consumed, and almost the same Symptoms will ensue as in (491.)

946. And again, if, after an Inflammation of the Liver, the Circumstances be as in (392.) a Schirrus will grow there; which by its Tumor, Hardnes and continual Increase, doth incommode and hurt not only its own Seat, but also the adjacent Parts; hence are again produced almost all the same Evils as in (881, 882, 883.) but flower; it doth not give way to softening Medicines, and sharp ones do soon convert it into a most horid Cancer (492.) whose terrible Effects are easily understood from (499.) compared with this affected Place: the chief Effect of such a Schirrus is a perpetual Jaundice.

947. It is plain therefore that this Evil, when known by its proper Signs (946.) ought to be treated with the most grave and slow Means, and that the same is scarce ever cured.

948. But if only a flight Inflammation has been in a small Part of the Liver, it will produce a Stone there, a small Schirrus, a large

Pustule, a small Imposthume; which of themselves will cause a small, but upon the Approach of a Fever, many and great Evils (881.)

949. Lastly, an Inflammation of the Liver doth likewise terminate in Death; If the Causes of the Inflammation are so violent, that nothing can pass through the Liver, and a very high Fever doth rage at the same Time; for then is the whole Liver stiff all about the Circumference and Extremities of the Lobes and Vessels, and much dilated about the larger Vessels, so that it cannot perform any of its Functions; there breaks out a great and sudden Jaundice, the Vessels tear, the Blood and Choler are shed, and the Patient thereupon instantly dies. This Event is foretold, 1° From the known Violence of the Disease in the Liver. 2° From a sudden and utter Loss of Strength. But its Presence is known from Blood, Choler, Excrements like Lees of Oyl, green, black, very stinking and even like unto the Smell of dead Bodies, being vomited or voided by Stool; besides a violent continual Hiccough, and uncommon Fever, an unquenchable Thirst, and a very sudden Paleness.

950. From all these explain'd, (since 914, to 950.) may be understood numberless Symptoms, occurring in acute Diseases; whose Reasons being unknown, have given Birth to all the idle Tales about *the Malignancy in Diseases*: for from the Liver do depend all the Bowels of the Abdomen, and consequently all their Actions, of Digestion, Assimilation, Nutrition, supplying the Blood with new Fewel, and the alvine Excretion.

Excretion. In the Liver are three sorts of Liquors all easily rotting upon the Accession of Heat, much Blood and that loose; the Choler of the Gall-Bladder and the Choler of the Liver, emptying itself through a particular and distinct Passage from t'other: the Liver is situated very near to the Diaphragm and the Heart: when the Extremities of the biliary Vessels are obstructed, then doth the biliary Liquor of the several Branches of the Vena Portæ pass over into the Vena Cava. And from this alone it is easy to conceive how many and different sorts of Jaundices are apt to arise. Why it is sometimes easily cured and when: why it proves at other Times so obstinate: why it sometimes kills soon, and sometimes late: why it comes and goes, and returns again by fits: why it appears, continues, and returns with such great Anguish, Vomiting, Pain and Convulsions; and what it then doth mean and indicate: why it is so calamitous in acute Fevers before the seventh Day: why so very insuperable in the same Fevers after the seventh Day: why upon the coming of a large Bloody-flux by Stool, which however doth not continue long, the same is so thoroughly cured: why letting of Blood doth so little profit in those Diseases; why in all acute Distempers a Physician ought always to have a great Regard to, and a constant Eye upon the Pains of the Hypochondria, their Tumors and their liftings upwards and inwards at the same Time: why the Presence and Absence of the Jaundice be so suddenly known by the Eyes, and Urine: why the inflammatory, suppuratory, gangrenous, schirrous, can-

crous Diseases of the Spleen, Stomach, Caul, Mesentery, and Intestines do always at the same Time violently affect the Liver: why also the inflammatory and schirrouse Diseases of the Liver do in their turn infest them: why the Liver can swell to so prodigious a Bulk, and afterwards be even dried up: why a Dropsy proceeds from Defects of the Liver, and the Tympany a worse afflicting Disease than the former: why dropical People waste away, their Liver is dried up, and on the contrary the Spleen much swell'd: which is the Bloody-flux proceeding from the very Liver, &c. for there are innumerable things belonging to this Place, and to be resolved by what has been said.

Of the Inflammation of the Stomach.

951. As other Parts, so may likewise the Stomach be seized with a true Inflammation: whereof the Signs and Effects are pretty near, as follows; A burning, fixed and pungent Pain settles in the very Stomach; it grows fiercer at the very Moment that any thing is swallowed down into it; and the Patient vomits up every thing with the utmost violent Strainings, and a very painful Hiccough; he is in a terrible and uninterrupted Anguish about the Vitals, and has an acute continual Fever. Its Causes are those of all Inflammations in general, or is communicated by some adjacent Part, that is inflamed, or some sharp corrosive Matters that have been swallowed.

952. It

952. It most times becomes mortal in a short Time, unless it be suddenly cured, because of the Necessity of the Part, and its having several Tissues of Nerves.

953. It uses to terminate like all other inflammatory Diseases into Health, suppurating, schirrous, cancerous, gangrenous Distempers, or into sudden Death itself, which is hasten'd by Convulsions.

954. As soon as it is known present by its Signs (951.) it ought to be relieved, and the Cure attempted by bleeding immediately, largely, and if need be, repeatedly : by the softest, emollient Diet and Medicines contrary to Inflammations, and to the immediate Cause thereof in this Case ; by Glysters, Fomentations, and other outward Applications of the like Kind. Above all things abstain from giving a Vomit, or allowing any Juices that have any Degree of Sharpness in them.

955. If it terminates into an Imposthume, there follow many Evils, chiefly a Nauseating, Vomiting and Pain ; which to the ignorant of the Cause pass for very strange and wonderful Phænomena : which Causes, when known (951.) require the same Cure as other Imposthumes. (See 402, to 413.)

956. When it creates a Schirrus, or a Cancer, then are occasion'd the most enormous Vomitings, intolerable Pains, increased upon the swallowing of every little Matter, fixed, long continued, and always worse upon the assuming of any sharp Medicines. " Forbear there-
" fore

" fore the too common Mixture of *Sal. Ab-synth. Succ. Limon. Aq. Menth, &c.* which
" every Pretender to Physick doth administer
" without any Distinction ; but let the *Succus Thebaicus* be your all, moderating your Do-ses according to the Degree and Circum-stances of the several Symptoms.

957. It is asswaged only with soft Medicines proper to these Diseases. (See 490, 491. 506. to 511.) it is rarely cured: " In this case chiefly are profitable the famous Waters, of *Bath*, *Aix la Chapelle*, *Bourbon*, *Aix in Provence*, &c.

958. The Origin, Nature, and Effects of the Inflammation, Imposthumation, Gangrene, Schirrus and Cancer, of the Spleen, Pancreas and Caul, are known, foreseen, cured or palliated from and with the same as have been said from (914. to 958.)

Of the Inflammation of the Guts.

959. The Intestines, chiefly the thin Guts, are very often seized with the like acute Inflammation in their Membranes as the Stomach, from Causes common to all Inflammations carried thither; or from the matter of sharp Drink, Aliments, high Sauces, Medicines or Poisons reaching those Parts, detain'd in the Foldings of the Valvules and sticking to them; and also from a sharp, putrid, and fætid purulent, ichorous, gangrenous, biliary, and atrabiliar Matter conveyed hither from the Gullet, Stomach, Liver, Spleen, Pancreas, and Caul, which

which sticks also to them and gnaws them; Or lastly, from some strong preceding Convulsion, occasioning Flatus's stopping the Motion, and therefore creating an Inflammation.

960. When created in those Parts, it contracts the Guts, shuts up the Cavity, hinders the Passage of what presents itself, and occasions a very sharp, burning, fixed Pain; violent Convulsions, when irritated by the Matter that is near and upon the affected Part; it stops the Passage by Stool; excites a Vomiting of what is then taken, or approaches the Part, and that sooner or later after taking, according as its Seat is higher or lower; it creates painful Winds, most sharp griping Pains, with great Murmurings in the Guts, the Iliac Passion, Twisting of the Guts, an Imposthume, Gangrene, Schirrus, Cancer; a very acute Fever, a very great Weakness from the Fierceness of the Pain, and a very sudden Death.

961. As long as it continues within the Terms of an Inflammation, it imposes on the unwary, under the Name of the *Iliac Passion*, who ascribe the Cause of it to a cold Flatus, or Wind, to the great Detriment of the Patient; for they attempt the Cure with hot Things, and such as from their pretended *Power of Charming*, have retain'd the Name of *Carminalives*, whose Event is generally fatal.

962. But it may easily be known to be a true Inflammation by its Companion, a very acute continual Fever, a great Drought, great Heat, a hard Pulse, a burning fiery Pain, a very

very high-colour'd Urine, and a sudden Weakness.

963. If the same (959.) doth occupy the Tract of the *Gut Colon*, it occasions that Pain, which is called *the Colick*; if it seizes the lower End of the *Intestinum Rectum*, then it commonly passes for a Fit of the blind or inward Piles: it goes off with a kind Dysentery, the Excrements being somewhat bloody and biliary.

964. As soon as it is known present by its Signs (959, 960.) then ought the Cure to be attempted forthwith with all the most powerful Means, whilst it is yet in this first State; which is obtained, 1°. By a large and repeated Bleeding as in the Pleurify (890.) 2°. By continually injecting of loosening, diluting, antiphlogistic Glysters repeated often to three or four or more times in a Day. 3°. By the drinking incessantly things of the same kind very warm, mixing Opiats with a due Caution; and also such things as are known to be contrary to the particular or singular Cause of the Disease (959.) 4°. By Fomentations of the like kind applied all over the Belly, and chiefly the Application of young, live, hot and sound Animals; such as Puppies or Kittens. 5°. And in the mean time prudently forbearing the use of any sharp things, or such as increase the Motion of the Blood, as are heating, whether Aliments, Drink, Medicines, Motion or Passions. 6°. Continuing in the Use of those, till the whole Evil be appeased, and doth not return in three Days after it. 965. If

965. If this Evil having preceded (959,
960.) and not having been removed by proper
Means, and continuing still with the same Ob-
stinacy, longer than three Days, in the Room
of Pain, burning, and tearing, there has suc-
ceeded an uncertain and wavering Shivering
all over the Body without a manifest Cause,
an obtuse Pain in the Part, together with a
Heaviness of the same, it will be a Sign that
an Imposthume is forming there; out of which
there will flow Pus within a Fortnight upon
its breaking; if it falls into the Cavity of the
Abdomen, it creates many Ills like unto those
of (939.) But if it flows in the Inside and
through the Tracts of the Guts, it causes a
purulent Dysentery, which is great or small,
of a long or short Continuance, according to
the Nature of the Ulcer there; hence are often
the whole glandular Membranes voided, and
Consumptions might hence arise. "The Hec-
tic which Mr. Jackson's Child fell into (men-
tion'd in my Observation and Addition to the
895th Aphorism) was owing to an Impost-
hume of the lower Guts, not suspected by
the Physician that visited him before me, and
discover'd by me upon the giving him a
Glyster, to try whether his Fever had been
owing to Worms, for that broke the Bag,
and with it follow'd the whole glandular
Membrane; whereupon ensued a new sort
of Pain, which was removed by injecting se-
veral oily and vulnerary Glysters.

966. As soon as that (965.) is known to be the Case, you must immediately forbear giving any such Diet whence many hard, thick or sharp Excrements may be separated ; the Patient is to be fed only with Broths, with gentle cleansing Roots boyl'd therein ; balsamic and detergent Decoctions are to be drank in great Quantities, or given in Glysters ; or medicated Waters must be drank in great Quantities ; and these things must be continued till the Cure is perfected.

967. But if the Disease has had very violent Causes (959.) and has produced the most cruel Symptoms of (960.) it may easily produce a Gangrene (388.) in that Part which doth afterwards kill with very great Sufferings.

968. Which to be approaching we may easily foresee by observing the same things already laid down (967.) if at the same time there be no Signs of a kind Resolution (963.) or of a Cure (964.)

969. That the same is already present we know, if we have before observed what was said just now (968.) and if there be a sudden, and causeless Remission of the most bitter Pain, while the Pulse remains weak, intermitting ; cold Sweats appear ; and there is a Dysentry which voids fetid, ash colour'd, ichorous, livid, and black Excrements and Skins, without any Sense of the Patient ; whence very soon an easie kind of Death.

970. This Evil when thus far advanced, doth seldom admit of a Cure ; it ought to be cured

cured sooner; but if any thing is capable of doing good, it is only the Method of (966.)

971. But if the Causes of (392.) have produced a *Schirrus* here, there grows an Illness of quite a different Nature, which we must endeavour to put in a true Light, and to understand thoroughly.

972. If therefore an Inflammation lays hold of the Intestines (959. 963.) with the Circumstances of (392.) and last long without raising to the highest Pitch of Fierceness (960.) and is not conquered either by a Resolution (63.) or Medicines (964.) nor an Imposthumeration (956.) and then hath left in the Part a lasting Numbness, Heaviness, and Pulling; the Physician ought to think that a *Schirrus* is growing there.

973. Which following its own Nature (392.) and producing its proper (486.) Effects in this Place (959. 963.) must needs create many great and obstinate Evils; as are chiefly, the Numbness, Weight, and Bulk continually increasing; hence the Cavity of the Gut made narrower; a Stagnation there, of the Chyle and the Fæces; an Action and Working of those against the resisting Place, their growing putrid from their being detain'd; hence at last an entire shutting up of the Gut and its winding; a staying of all the gross Parts of the Aliments, &c. The iliac Passion, Miserere, or from the sharp irritating Fæces a dry sort of Dysentery; Convulsions, Hiccoughs, Vomitings, continual Pains, a Fever, a Leanness, Wasting and Death.

974. Remedies of any Kind are but of little Profit here. The Diet ought to be as in (966.) and thus it may be bore long without any great Sufferings.

975. But if this Schirrus grown here and produced by the Causes of (492, 495.) is known by the Signs of (497, 498.) then is it a most calamitous Cafè, and altogether incurable ; which may be known from (498.) compar'd with the Nature, Function, and the nervous Texture of the Gut : But chiefly a continual very sharp Dysentery, not giving way to any Medicines, burning, corroding, consuming, with most sharp Convulsions, Pains greater than what the most patient can endure, and them fixed, and of long Continuance, till at last Death is wish'd for, and call'd upon as the only Relief for those Miseries.

976. If, as soon as the Schirrus is known to be present (972.) it be treated after the Method of (974.) the Calamities of (975.) are in a great measure prevented. But if to overcome and cure the same, Use be made imprudently of sharp Remedies (490. N^o. 3. 495, 502.) and chiefly of strong Purges, a Cancer will certainly grow and rage there. For then his Drink ought only to be of Milk-whey, his Diet of mealy Broths, or made of Flesh only with Yolks of Eggs : Let Glysters be injected made of the Decoctions of Linseed, or the Leaves of the woody Night-shade, or the Seeds and Heads of Poppies ; the Medicines of the most softning anodyne, gentle Opiats, and such as do not easily turn either sour or sharp.

977. Hence doth it at last appear, why Physicians meet so frequently in their Practice such cruel, fixed, obstinate, intolerable, and incurable Pains of the Gullet, the upper Orifice of the Stomach, Liver, Spleen, Pancreas, or the thin Guts, and of the Colon: and also how many sorts of Bloody-Fluxes, which are wonderful in all respects: how ill grounded People often are, when in these Diseases they accuse a peculiar Sort of a hectic Acrimony, and according to this erroneous Notion, often give quite contrary and pernicious Medicines: how prudent a Physician ought always to be, when in these Diseases he goes about to prescribe Purges: and why often upon the same wrongly and untimely given, there follows a terrible and most times insuperable Over-purging, or Hypercatharsis: how many different Methods and Remedies are required to cure the several sorts of Dysenteries: how foolish, deceitful, and pernicious therefore the boastings be of some People, to cry up one particular Medicine, though never so excellent, as an infallible Specific against that Disease: or even one general Method: and Abundance more Consequences besides. N. B. "Dr. Boerhaave has most certainly in his View here Dr. Helvetius of Paris, who has imposed much on the World with the *Indian Vomit*, crying it up as an ever infallible Remedy in Bloody-Fluxes, by which he in a little Time did get very considerable Sums of the Credulous. * And as he has very good Intelligence from London, I am afraid that he has in his Eye

T at

" at the same Time an otherways worthy
 " North-British Physician, whom I have often
 " wondred how he could lessen himself so
 " much, as to carry about his infallible Electu-
 " ary, when he has Merit enough otherways
 " to make himself commendable.

Of the Thrush.

978. But as in many acute Diseases where the Bowels are inflamed, a *Thrush* doth not a little rage and perplex ; it will not be improper to treat of it in a few Lines.

979. Which in reality is nothing else than an Accumulation of small, round, superficial Ulcers which beset the Inside of the Mouth.

980. Which being examined with Judgment, seem to be Exulcerations of the extream Emissaries by which the Spittle, and the oily mucous Liquor is separated and pour'd out into the Mouth, occasion'd there by the shutting up of that Canal with a slimy and tough Humour that has been convey'd thither.

981. So that they occupy all those Places, where the like Emissaries unload themselves ; that is, the Lips, Gums, Inside of the Cheeks, Tongue, Palate, Jaws, Tonsils, Uvula, Gullet, Stomach, and thinner Guts ; and they are much of the same Nature, and produce the same Effects in all those Parts.

982. They mostly and often invade the Northern Nations, that inhabit Fenns and Low-lands, in warm, rainy Weather ; they are very fatal to Children and old Age.

983. Before

983. Before the Thrush shews itself in the Mouth, there has usually preceded a continual putrid Fever; or an Intermittent one turn'd into a Continual; beginning with a Diarrhoea or Dysentery; a great and continual Nauseating, Vomiting, Loss of Appetite; great Anguishes coming on frequently with a great Puffure, and like a cross Bar about the Vitals; a great Weakness; a great Evacuation of all Sorts of Humours; a Numbness and Dulness; a slight, unsettled, continual Slumbering, a continual Complaint of a Heaviness and Pain about the Stomach.

984. There useth sometimes to appear here and there a single Pustule, sometimes first upon the Tongue, or in the Corners of the Mouth, in the Jaws or elsewhere, without any constant Choice of the Place at the Beginning; and this sort of Thrush is always a kind one: sometimes it appears very deep down the Jaws with a white Crust, seeming to climb upward from the Gullet; which Crust is thick, shining like fresh Lard, sticking very fast, and mounting slowly: this is the worst Sort which most times doth kill: sometimes it occupies the whole Cavity and Inside of the Mouth, even to the further Out-Parts of the Lips, with hard, thick, close, and very sticking Crusts; covering all these Parts over in one continued Body: and of this Sort very few do escape.

985. These Ulcers (979.) are of different Colours, of a pellucid white, like Pearls, an entire white from their great Thickness; tawny,

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yellow, livid, black; the Malignancy whereof increases in this same Order as the Colours have been set down, so that the first be the kindest, and the last most destructive of all.

986. When they have stuck some Time, they use to grow loose at the lower Parts, to give way, to fall by piece-meals; so that all the Parts are gradually and successively freed of 'em. Some fall off quickly, others slowly; some grow on afresh, suddenly, some slowly; some not at all. Sometimes they return as thick and close as the former, and sometimes even closer: from these several Appearances judge again of the Order and Degrees of Danger.

987. So that their Place (981.) Nature (997, 980.) Cause (980, 983.) and Symptoms (984, to 987.) do give us sufficient Light into the different Nature of this Illness: and thence we may also rightly foresee what the several Effects and Consequences must be.

988. For when such an aphthous Crust doth cover over the whole Surface of the Parts described in (981.) it takes away all the Feeling and Sensation which ought to strike the Nerves, whence the Patient cannot possibly taste any Thing; it hinders the Egrets of the Liquids through their Emissaries, whence Drinels, a Dilating of the Vessels underneath that Crust, a Putrefaction of the Liquors that stop there, and an Inflammation of the Parts themselves; it shuts up the Cavities of the absorbing Vessels (the Lacteals) whence it hinders the Ingrels

of new Chyle, Drink, and Medicines into the Blood ; produces the Defects arising from the want of Nourishment ; whence at last Death itself ; when the Crusts fall off, there follows a greater Flux and Discharge of Humours through the now dilated Vessels ; whence a *perfect Salvation*. “ Which in this very Case I saw continued six Years ago in a young Lady, my Patient, to the Quantity of above two Quarts a Day, for three Weeks together, which cou’d not be entirely suppress’d but after many repeated Purges and gentle Astringents to restore the Tonus both of the Vessels and of the Blood.” A Loosness, which is advantageous if the aphthous Crusts do not grow afresh; but very pernicious if they return when the Crusts fall off, the Pain of the inflamed and now bare Parts often dropping clear Blood, occasion bloody Spittle or a bloody Flux ; all which Effects if we comply and compare with the Nature of the Stomach, of the emissary Duct of the Liver, Pancreas and Intestines, will inform us of the infinite Evils that may ensue from this one Disease the Thrush ; so that there is no occasion for any other Prognostic.

989. But if those ulcerous Crusts be very slow, thick, wide and close, then is the subjacent, suffocated, inflamed, suppurated and gangrenous Flesh chang’d into very ill-natur’d Ulcers, which eat and consume the Palate sometimes to the very Sheath of the Bone ; and it is self evident, what Evils it produces when this happens in the Stomach or Guts.

990. To obtain the best Cure for this Disease, 1. The Physician ought to cause the internal Impulse of the vital Juices against and towards the affected Parts to be raised, and thus moderated; that by Means of this Supply of Liquid the ulcerous Crust may be resolved below, loosen'd and made to fall off; this is effected with drinking great Quantities of warm, diluting, resolv-ing and cleansing Decoctions. And because in the bad Sorts of this Disease the Lacteals are so obseßed as not to give an easy Passage to these Liquors into the Blood, Recourse must be had to Fomentations, Steams, and Bathings; which are of wonderful Use in this Case; the best Ali-ments here are Panadoes, with the Addition of some Wine and Honey. 2. This Crust ought to be prepared and made apt to fall off easily and quickly; which is done with Fomentati-ons, Gargles, Glysters; which ought to be made of warm, loosening, emollient, deterſive Li-quors; and by its sufficient Stay moistning, and resisting Putrefaction. 3. As soon as the Crust is fall'n, Anodynes, softning and at the same Time somewhat corroborating Medicines are forthwith to be given. 4. And as soon as the Fever is abated, the Urine begins to separate, the Pulse is freer, then is cordial and strengthen-ing Drink useful and profitable. 5. At the End of the Disease a warm cordial Sort of a Purge ought to be given; such as may be the *Tinctura Sacra, or Bates's Tincture of Rhubarb.*

991. From this History and the Cure of the Thrush may a great many Doubts occurring in

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the Practice of Physick be resolved. As, why at the latter End of a Fever, attended with a Diarrhoea or Dysentery, a Thrush ensueth : why this doth mostly happen in Children and aged People : why mostly when in this sort of Fever from the first were ordered heating or astringent Medicines, Diet and Regimen : why the Thrush may be prevented in those Fevers if a Purge be order'd before any thing else : why in the worst sort of Thrush the Patient is afflicted with a fatal Hiccough : why *Hippocrates* joins together the Thrush in the Mouth, a loose Belly, and Loss of Appetite : why the Thrush obsefing the whole Membrane of the Stomach doth of Necessity occasion a Lientery (that is a Loosness by which the Chyle passes through all the Guts unalter'd :) why the black Thrush is reputed Pestilential : why a violent Thrush in the Mouth of Women with Child doth forebode a Miscarriage : why in Diseases of putrid Lungs or Liver the Thrush is almost an inseparable Symptom, though slighter : why upon the overcooling of the Thrush there follows a Tumor, a Heat, Suffocation, or a Quinsey : why a Delirium, Tossings, constant Wakefulness and cold Sweats be such dangerous and even mortal Symptoms in the Thrush.

992. So that in a few this is the Rule to judge by : a transparent, white, thin, scatter'd, soft, easily falling off, little returning and superficial Thrush is a kind and good Sort : But on the contrary, that which is very white and solid, yellow, tawny, black, close, thick, running into

one, hard, tough, continually returning and eating into the Parts, is a bad and fatal sort of Thrush.

Of the Nephritis.

993. That the Kidneys themselves are seized with a true Inflammation, we know from a burning, pungent, great and inflammatory Pain of the Place where the Kidneys are situated; from an acute continual concomitant Fever; Scarcity of Urine; often made in very small Quantities, its being very red and flaming, or, when the Illness is in its highest Degree, very watry and limpid; a Numbness of the Thigh on the affected Side; a Pain on the same Groin and Testicle; Iliac Pains; vomiting of Choler, and continual Belchings.

994. This(993.) is produced by all the Causes of a general Inflammation directed to the Kidneys; and therefore, 1°. Whatever hinders the Arteries to transmit their Liquid, a Wound, a Bruise, an Imposthume, a Tumor, lying long upon the Back, a violent Strain of the Back, or a Stone. 2. All that hinders the Passage of Urine into the Pelvis, Ureter, or Bladder, as are most Causes just now mentioned, when applied to these Parts. 3. Such as with Violence force the coarse Parts of the Blood into the Urinary Passages, as Running, long and hard Riding, great Heat, a Straining, a Plethora, sharp corrosive Diuretics, and Poisons. 4. A convulsive Contraction of all the said small Vessels if long continued.

995. If

995. If the Inflammation of those Parts be in the highest Degree, they are often so very much tied up, that no Water at all can pass 'em; sometimes only a very little that is transparent, thin, or watry, which is worst of all. The coherent and neighbouring Nerves being often irritated, it occasions Pains and Convulsions in the Stomach, Mesentery, Guts, and Ureters; whence Belchings, a Nauseousness, Vomitings, Griping, painful Stools, the Iliac Passion, Stoppage of Urine, a Numbness of the Thighs and Legs, and their Unmoveableness, and a Burning in the Loyns.

996. It goes off by the Help of kind Nature, or the Illness it self carrying off and overcoming its Causes. 1°. By means of a Resolution. 2°. By the voiding of a great Quantity of a sad, red, thick Urine, without any Interruption, and before the seventh Day of the Illness, at farthest, before the fourteenth. 3°. by the copious flowing of the Piles in the beginning of the Illness.

997. It is cured, when known by its Signs that it is an Inflammation (993, 995.) 1°. By the general Remedies apt to remove all Inflammations, as is bleeding, withdrawing, and diluting. 2. Gentle emollient Decoctions, such as are contrary to Inflammations given in large Quantities. 3°. Glysters, Fomentations, and Baths of the same Kind. 4°. A moist, soft Diet; Rest, keeping out of a warm Featherbed, and chiefly not lying upon the Back, "which Abundance in this Case are apt to do, because it "numbs the Parts and gives them Ease for that
" Time,

“ Time, but they pay for it afterwards with a
“ Witness.

998. If the Pains or Convulsions be very urgent, without waiting for the Effects of other Remedies, give Opiates with due Caution.

999. A great Vomiting, (here only a Symptom,) will often abate and be eased upon the drinking of warm Water with some Honey.

1000. And only this Method will safely cure even that Nephritis which is occasion'd by a Stone lodg'd in the Kidneys or Ureters.

1001. If the Causes of the Nephritis be violent, and the same will not be resolved (996.) nor cured (997.) but the Violence of it last beyond the seventh Day; then ought an Imposthume to be feared: Which we may know to be gathering, by the Abatement of the Pain, its Change into a Beating, often returning Shiverings, a Heaviness and Numbness of the Part: That the same is already made, is known by the just-mentioned having preceded, by a beating, heat, and stretching of the Part; the Urine being charged with Matter, stinking, and like to salt Urine that is putrified by standing: As soon as this Imposthume is known to be made, you must use at first such Things as do ripen very much, and are emollient at the same time; and when afterwards the Urine appears purulent, then order your Patient the clearest diuretic Medicines, “ such as the Mineral Waters of Isling-ton, &c. Milk-whey, and the like, not forgetting at the same time Balsamics: Of which, in my Opinion, none are to be compared to Co-

" paivy given in such a Method as to preserve
" the Stomach, and to hinder it from purging
" by Stool.

1002. But if this Imposthume (1001.) continues long, then doth the wholly consumed Kidney form an altogether useless Bag, and often occasion a Consumption of the Back.

1003. If it creates a Schirrus, there follows a Palsie or a Lameness of the Limb of that Side, which is no ways curable : whence often ensues a slow Consumption, a Dropsie, &c.

1004. But if a small Portion of the inflamed Matter be coagulated and stops in some of the smallest secretory Ducts of the Kidney, it forms there a Basis, to which any sandy Matter, contained in the Urine, happening to stick in the Form of a Crust, forms a Stone of the Kidneys and enlarges the same. Of which hereafter.

1005. This Inflammation doth even sometimes terminate into a Gangrene, which is known from the Violence of the Cause (994.) of the Symptoms (995,) the not ensuing Ease from Remedies (997,) but a sudden Abatement of Pain without any Cause, with a cold Sweat, a weak and intermitting Pulse, the Hiccough, no Urine, or its being livid, black, with Streaks in it like Hairs, stinking, with tawny or black Skins, a sudden and entire Loss of Strength : In which Case either nothing or only the Medicine of (902) is of use.

1006. Hence it is plain, that there are numberless Sorts and Causes of a Nephritis, and among them one which is occasioned by the Stone,
and

and that yet all of 'em may and ought to be cur'd by almost the same Method : Why Nephritic Pains are so frequent in Fevers (993.) and its Crisis (996.) from hence likewise we may learn to know and cure an Ischury or Stoppage of Urine, when occasion'd by some Fault of the Kidneys or Ureters.

Of the Apoplexy.

1007. The quick Event of Apoplexies, their depending often from and joyning with Inflammations, their producing many Evils, requires that we should treat of them in this place.

1008. Which Apoplexy is said to be present, when of a sudden, the Action of the five external and all the internal Senses is abolished together with all the voluntary Actions, and there remains only the Pulse, most times very strong, and Breathing, but difficult, great, and with a Snoaring, together with an appearance of a deep and continual Sleep.

1009. The most accurate and often repeated Observation has taught us, that this Disease has happen'd as often as those Causes had preceded, which have been able to cut off intirely or in a great measure the Efflux of the Animal Spirits out of their Magazine the Brain, and hinder them from flowing into the Organs of the Senses and voluntary Motions; and also their return from the said Organs into the *Sensorium commune*; whilst there remains a free Egress and probably Regress of the cerebellous Juice into the Heart; and the natural Organs of Respiration to that degree,

is in a manner sufficient to perform the said Functions.

1010. All which Causes enumerated by the observing Physicians, and delivered to us, may be reduced into some certain Classes for the ease of Practice.

1. The natural Make of the Body, as a large Head, a short Neck, and often raised but upon six Vertebras instead of seven ; very large, big, and fat Body ; a plethoric Constitution, and an abounding pituitous Cacochymy.

2. Whatever doth alter the Blood, Lympha and Matter of the Spirits so, that they cannot freely pass through the Arteries of the Brain, but stick and fasten there : Such are often, α . Poly-pous Concretions in the Carotid or Vertebral Arteries, whether first grown about the Heart or bred within the Cranium it self ; which shew themselves by a Palpitation of the Heart, an unequal Pulse, frequent Vertigoes and Dimness increased upon the Increase of Motion, or Heat. β . an Inflammatory Thickness of the Blood, which is known by the long Duration of an acute continual Fever, Phrenzy, and a violent inflammatory Pain in the Head ; then all the Signs arising from the Blood, which being hindred from going through the Vessels of the Brain, fall with so much the greater Force, and in greater Quantity upon the other Ramifications of the carotid Arteries ; whence a Redness, a Tumor, Inflammation of the Eyes (and forced Tears in 'em) Face and Neck. γ . A thick, gluish, and pituitous sluggish Nature of the whole Mass of Blood ;

Blood; whence this Distemper so commonly invades old, catarrhous, cold, pale, leucophlegmatic People of a moist Constitution; and it may even be foretold before its coming, if active People grow lazy or idle of a sudden, and dull, sleepy, indifferent to any Motion or Exercise, speak slower than usual; from their Tremors, Snoarings, Night-mares, a Paleness, Turgidness, Moisture and Dimness in their Eyes; their frequent vomiting of Phlegm; being giddy, breathing with Difficulty upon the least Motion, with a drawing and beating of the Nostrils: All the Causes which will either produce or accumulate a sluggish Glew. (69, to 75.)

3. Whatever doth squeeze the very Arteries or nervous Vessels of the Brain, so that neither the Blood nor Spirits can flow through them.

a. Hence are plethorick People of a hot Constitution, and full of gross Humours, very prone to this Illness; chiefly if Motion or an additional great Heat have increased the Motion of the Liquids; hence it uses to befall them upon over-eating, hard drinking, sharp and much moving Medicines, as are Cordials, Volatile Salts, Spirits, &c. Vomits, &c. Overheating, overwaking or working; too much thinking, or too frequent and too long bending of the Mind.

β . Any sort of Tumors grown in the Cranium, whether inflammatory, suppuratory, serous, pituitous, steatomatous, schirrous, osseous, or compressing the Arteries, or the meeting of the Veins near the Torcular of Herophilus, or doing the same to the Medullar Beginnings of the Nerves, or

the

the very Medulla of the Brain. γ . A too quick Motion of the Blood towards the Head, while the Blood doth not circulate so freely in the Arteries below, which may proceed from numberless Causes. "A daily occurring one is the Pressure of the full Stomach, which seldom fails to make People heavy to sleep from this very Cause." δ . All that doth squeeze and press the Veins which return the Blood from the Brain; as it happens to People that are hang'd, who may all be said to die of an Apoplexy. ϵ . The Effusion of Blood, Pus, Ichor, or Lympha upon the *Dura* or *Pia Mater*, and pressing them outwardly upon the Brain.

4. Whatever doth divide the Arteries, Veins, and Lymphatic Vessels of the interior Brain near its Cavities, so that the flowing Juices being accumulated to offend by their Pressure the arched Origins of the Nerves. Such are the sharp Serum in dropical and leucophlegmatic, Blood in plethoric, the bilious Acrimony in melancholic, scorbutic, and gouty People; which very common Cause occurs mostly between the Age of forty and sixty; all which being awaken'd and stirred up out of Inaction by their peculiar moving Causes, do often suddenly create this Disease. It may therefore be foretold from the Nature of the præ-existent Matter and the Knowledge of the Causes which are like to put in Motion. And here are chiefly prejudicial, violent Passions of the Mind, and the too great Application to any sort of Busines that requires much Thought.

5. Hereto belong also some Poisons, which however

however do operate according to the Power of the three last Causes, (N°. 2, 3, 4.) and which rather suffocate the Lungs than hurt the Brain.

" N.B. Our Author here particularly designs " the *Grotta Canina* near *Puteoli* in the King-
" dom of *Naples*, whose sulphureous acid
" Steams mounting a small Space above the
" Ground in that particular *Dog's Hole*, do suffo-
" cate such Dogs as are forcibly let down into it,
" but of which they recover as soon as taken out,
" and thrown into the Pond just opposite and
" near to it, &c. Of this see the Particulars in
most Voyages to *Italy*.

1011. Those Causes (1010.) we have learn'd from the Anatomical Inspection and Examen of such Bodies as died of Apoplexies, and the Historical Observation of such Things as are obvious to a curious Observer in the Cure of this Disease: And Reasoning doth easily range 'em in the mentioned Classes (1010.) which are very much adapted to shew the particular Method of Cure in each Case.

1012. From these 'tis manifest, that this Disease is often created by different, and sometimes even opposite Causes; and is therefore judiciously divided into a *bloody* and *phlegmatic* sort; but not so as to comprehend all other Sorts, seeing there is such, as may be called *serous*, *atrabiliar*, *polypous* and otherways distinguish'd Apoplexies.

1013. But the affected Place in a true Apoplexy is the whole *Sensorium Commune*; but in a slight or symptomatick one; it is only some part thereof chiefly, while the other Parts are

in some measure, but yet less pressed; the Cerebellum being most times unhurt in the beginning.

1014. Whence it appears, why the Pulse beats and Breathing is preserved, while the Senses and voluntary Motions are destroy'd; and even why the Pulse and Breathing are stronger in proportion as the Senses and Motion do decrease, and also when Death is near at hand.

1015. The Greatness of an Apoplexy therefore is measur'd by the Age, Constitution, and Make of the Patient; then by the Violence of the Symptoms, and chiefly the entire Destruction of Senses and Motion; the Strength of Breathing with loud Snoaring; by a Quantity of tough Froth about the Mouth; a thin cold Sweat gathering in Drops: If this Fit be produced by a preceding slight Fit of a Symptomatic Apoplexy, or by a violent Epileptic Fit, or any other known violent Cause whatever.

1016. The Lightness and Curableness of the Illness on the contrary is measured from the Lightness of the Symptoms, and the Absence of what was just mention'd. (1015.)

1017. A gentle Apoplexy goes off with the coming on of Sweats, which relieve by their great Quantity, Continuance in an equal Degree, spreading equally like Dew and Heat; with a large Quantity of thick Urine; with large Bleeding from the Piles for a long while; with the Fluor of the Menstrua being restor'd; a Loosness and a high Fever.

however do operate according to the Power of the three last Causes, (N°. 2, 3, 4.) and which rather suffocate the Lungs than hurt the Brain.

" N.B. Our Author here particularly designs " the *Grotta Canina* near *Puteoli* in the King-
" dom of *Naples*, whose sulphureous acid
" Steams mounting a small Space above the
" Ground in that particular *Dog's Hole*, do suffo-
" cate such Dogs as are forcibly let down into it,
" but of which they recover as soon as taken out,
" and thrown into the Pond just opposite and
" near to it, &c. Of this see the Particulars in
most Voyages to *Italy*.

1011. Those Causes (1010.) we have learn'd from the Anatomical Inspection and Examen of such Bodies as died of Apoplexies, and the Historical Observation of such Things as are obvious to a curious Observer in the Cure of this Disease: And Reasoning doth easily range 'em in the mentioned Classes (1010.) which are very much adapted to shew the particular Method of Cure in each Case.

1012. From these 'tis manifest, that this Disease is often created by different, and sometimes even opposite Causes; and is therefore judiciously divided into a *bloody* and *phlegmatic* sort; but not so as to comprehend all other Sorts, seeing there is such, as may be called *serous*, *atrabiliar*, *polypous* and otherways distinguish'd Apoplexies.

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1018. One somewhat stronger, when the Cause is overcome, doth usually change into a Palsy of some muscular Part; of one entire Side of the Body, whence it is called an *Hemiplegia*; or of all the Parts below the Neck, which is call'd a *Paraplegia*, and is seldom cured; leaving always behind a Decay of Memory, Judgment and Motion; whence they use to continue all their Life-time after sleepy, dull, trembling, giddy, and pusillanimous.

1019. But a fierce true Apoplexy (1015.) soon terminates in Death from the violent Attrition of the Cerebellum, the Corruption of all the Liquids, and the reaching of the Cause into the Cerebellum itself: These do seldom out-live the seventh Day.

1020. That an Apoplexy is like to invade may be foreseen; 1. From knowing the natural Constitution (1010. N^o. 1.) 2. Knowing the Presence of such præexistent Matter as will occasion it. (1010. N^o. 2.) 3. The several Occasions that will put that Matter in Motion. 4. The first Effects of the beginning Illness, as are a Tremor, Staggering, Vertigo, Dimness, Numbness, Sleepiness, faulty Memory, tingling Noise in the Ears, a Heaving and Panting, a deeper Breathing than usual, with a drawing of the Nostrils inwardly, and a complaining of a heavy Weight when laid down; which is call'd being *rid by the Night-mare*.

1021. It is soon discover'd when present, only Care ought to be taken not to confound the several Sorts.

1022. No

1022. No general Rule can be laid down for the Cure of it; for that ought to vary according to the various Causes (1010.) their different way of invading, and the Difference of the Place chiefly affected, and ought to be applied in the very beginning before the Evil is confirm'd and increased by time.

1023. If therefore it is foreseen, that the same is to happen from a slow, sluggish, and cold Cause (1010. N^o. 2. lett. γ.) by its Signs there mention'd, Endeavours ought to be used forthwith, 1. That the Pressure of the glewish Matter be drawn off from the Head. 2. That its Sluggishness in the Brain, and all over the Body, be amended by attenuating Medicines.

1024. The Pressure upon the Vessels of the Brain is lessen'd. 1. By diverting the Matter into other and opposite Places. 2. By general Evacuations.

1025. The first will be obtain'd by Steams, Fotusses, Baths, Suckings, Blysters, drawing and heating Plaisters, Caustics, Issues, Setons, Frictions, Ligatures upon the larger Veins, and all these applied to the Feet, Legs and Thighs, (1024. N^o. 1.) And likewise Mouth-washes, Gargles, Masticators, such things as increase Spitting by their biting Qualities applied and held the Mouth, Jaws, or Nostrils, will be of Service here.

1026. Strong Vomits and Purges, the Operation of which be surely known, Scarification, Cupping and Bleeding, do answer the second

End in (1024. No. 2.) though the Success of 'em be always pretty uncertain.

1027. But the Sluggishness, (having first applied such as are determin'd to distant Parts) (1024, 1025, 1026.) is dissolv'd by the general Remedies against Gleuishness discribed in (75.) which ought to be used with Prudence, and to be applied to the Head in any Form; but of the greatest Service are Blisters and the like drawing Plasters, whether with or without Spanish Flies.

1028. If an Apoplexy from the laid Causes (1023.) is already present, it is seldom cured: If Strength will bear, the same are to be tried as from (1023, to 1028.) All those things are to be applied to the Nose, Mouth, and Head, that are able to awaken the Senses; all sorts of sharp stimulating Means used, and the Belly loosen'd with sharp Glysters.

1029. It often happens however that these very Means (1028.) do increase the Evil, by moving and driving the Matter more into the affected Parts by the stimulating Faculty of those Medicines; and that Strength is soon exhausted by Evacuations: So that in order to conquer this Disease, a Physician must always insist on Evacuations, and withdrawing from the Head as much as the Case before him will bear; whence this ancient and ever true Maxim, *That Bleeding doth kill, if it doth not instantly relieve.*

1030. But if that Apoplexy is foreseen to be at hand, which is delineated by the Signs mention'd in (1010. No. 2. 1. β. No. 3. 1. α. γ.) then ought immediate Recourse to be had to such

as

as can empty, resolve, and divert very suddenly.
1. Let *Blood* therefore immediately out of a large Vein and Orifice, chusing rather the *Jugulars*; which repeat as you see occasion: for after this you'll find an Amendment if the Case be curable. 2. Then give a stout and large cooling Purge, which repeat so often, that you may raise an almost continual Loosness; and if they will not work soon enough, promote and forward their working by injecting some sharp Glyster, with *Colocynthis*. 3. Then during the whole Course of the Illness exhibit cooling, diluting, attenuating, diuretic Medicines. 4. And at the same Time apply strong Withdrawers, till the Illness be conquered. 5. The Diet be very thin and light. 6. Beware of all Medicines which strongly stimulate, stir up, and heat; from external Fire or Heat of any kind; suffer him not to lie down upon a Bed, or otherways in a supine or much leaning Posture.

1031. But if that sort of *Apoplexy* (1030.) has already invaded, there is hardly any Hopes of a Recovery, unless it be by doing what has been just now (1030.) mentioned.

1032. But that which proceeds from extravasated Liquids between the Cranium and Membranes, between the two Membranes, from a Wound, Bruise, Fracture, or *Imposthume*, of that we have already treated in the Chapter about the Wounds of the Head, (267, 268. 273, to 297.) to which we refer the Reader.

1033. Such as is already occasioned and produced by the Effusion of the Liquids into the several

veral Cavities and Ventricles of the Brain itself (1010. No. 4.) and is known by its proper Signs there laid down, doth hardly require any Means to be used, because the Patient seldom fails of dying very suddenly: But if any thing be tried, all your Hopes must be grounded, 1. On the sudden driving of those Liquids into the Veins (279, 280.) 2. On the correcting of the predominant Acrimony and Toughness together, which is not to be affected more happily than by soapy chymical Medicines.

1034. That which was produced by a predominant extravasated Lympha, is easier cured; by forbearing to bleed, which rather is prejudicial than of any Service here: by giving immediately those Purges, that are reputed to be the most effectual in purging of Waters; by large blistering Plasters, chiefly if kept running a long while; a drying Dyet; strong drawing Plasters, Issues, and Setons.

1035. But if the same is occasion'd by some unknown Poisón, we know hitherto of no Medicine, which will soon enough operate to cure the same; nor also any which will cure that produced by a Polypous Concretion.

Of the Catalepsis.

1036. *Catoche, Catochus, or Catalepsis*, is that Disease in which the Patient becomes of a sudden unmoved, void of feeling, and retains that same Posture and Action of all the Parts of his Body which it was in when the Disease seized him first, "N.B. This doth happen so seldom,
" that

"that there is hardly one Physician in ten, who
"in fifty Years Practice shall happen to see it.
"Galen in fifty Years Practice saw but one.

1037. Its nearest Cause therefore is the Unmoveableness of the *Sensorium Commune*, which continues to send forth its Supply of Spirits only to those Nerves that were in Action at the time of the Disease's first invading.

1038. Consequently an intire Rest (as in the beginning before Conception and original Motion of the Heart) of the Blood in the Brain, the Glands of the Brain, and their Emissaries.

1039. All the Functions of the Brain are disturbed in this Disease, and also such as depend from 'em ; only the Muscles remain in that Tension as they were in the beginning ; Breathing and Pulsation of Arteries remain, but commonly very weak, and not much perceivable.

1040. Intermitting Fevers of long continuance, chiefly a Quartan; a melancholic, dry, and lank Constitution ; the Suppression of the Menses or Piles ; great and sudden Frights ; a deep and long continued intense Meditation upon the same Object ; strong Fever set a flaming in a Man of a very sanguine Constitution ; all these do mostly precede this Disease.

1041. Dissected Bodies have made it plain and certain, that the Arteries and Veins of the Brain are very turgid with thick Blood forcibly drove into them.

1042. It is often cured by raising and promoting a large Bleeding at the Nose.

1043. It seldom changes into other Diseases, yet it has sometimes been succeeded by the Falling Sickness, Convulsions, Foolishness, and Wasting from a want of Nourishment; but most times ends in Death.

1044. The Method is to be alter'd, and different Means to be tryed according to the Variety of the Cause: by waking and stirring the Patient up by means of Objects acting with a great Force upon the Organs of the Senes, as are light, sound, stimulating and pricking Medicines, as very sharp Sal Volatile; such as cause Pain, Frictions and Tossings up and down for some Time; by making the Nose bleed, by promoting the flowing of the Piles or Menses; by Sneezings, Vomits, Blisters, Issues, Setons, and a moist Diet.

Of a Carus.

1045. The Carus is a slight Apoplexy, but a very heavy obstinate Sleepiness with a Fever, chiefly from Causes which do press much upon the yet unhurt Brain (1010. №. 3. 1. α. β. γ. δ.) or such as obstruct the same, but easier dissolvable than in an Apoplexy (1010. №. 2. 1. β. γ.) the Patient here has some Perception, but a very sudden one; some Sensation, but in a very small Degree.

1046. Hence one may reasonably expect a perfect Health (and it generally falls out so) after the overcoming of the Carus, only the Patient is apt to retain for some Time after a shaking and wagging of his Head. " Which

" I

" I have very lately experienced in one Mr.
" Whitley recovered, against all Probability (be-
" cause of a long and obstinate Jaundice) by
" Bleeding, Purging, and Blistering.

1047. One may see and know how to cure
this Disease from the Method of curing Apo-
plexies deliver'd from (1020, to 1036.)

1048. The wakeful and the sleepy Coma, and
the Cataphora seem to be only slighter Sorts of
Cari; look back from (703, to 710.)

1049. A Lethargy is also a slighter sort of
Apoplexy from a cold, flow, and watry Cause,
so that the Knowledge of its Nature and Cure
is to be fetch'd from (1008, to 1036.)





O F

CHRONICAL DISEASES.

1050.



IT HERETO we have treated of the most remarkable internal and external *acute Diseases*, it's Time we come to the *Chronical*. These, if bred in the Body, took their Origin either from the Defects of the Liquids bred therein gradually, or from the Defects left behind by acute Diseases, that have not been entirely cured.

1051. The Defects bred gradually in the Liquids proceed, 1. From the assumed Air, Meat, Drink, Sauces, Medicines, or Poisons, so foreign as not to be like unto the Liquids of our Body, or so strong, that they cannot be made like unto them by the Power of our Bowels and Liquids. And these are, $\alpha.$ *a Sharpness* (60, to 69.) $\beta.$ *a Roughness*, consisting of a Sharpnes and Earthines joyn'd to the first in a great Proportion, like unto that which we perceive in unripe Fruits, or astringent Juices, Wines, and the like; which do coagulate our Liquors, constrain the Vessels and make them narrower; whence they give Birth to hard Obstructions

(31)

(31. 36. 40. 50. 51. 113. №. 1. 117.) It is cured with Diluters, fixed Alcalies, soapy Alcalies, used long and with Discretion. *γ.* *An aromatick Fatness*, from Meat Drink and Sauces, which appear hot to the Smell and Taste; these do produce a Heat, Attrition, an Injury of the smallest Vessels, hot Pains, Attenuation of the Liquors, a Putrefaction of the same, Extravasations, and a great many more such Evils. They are cured with watry, mealy, gelatinous and acid Means.

δ. *A sluggish Fatness*, from the too great Use of fat Things, either of Land-Animals, Fishes, or oily Vegetables; hence the Obstruction of (117.) a bilious Rustiness, an Inflammation, Corrosion, and worst sort of Putrefaction (82. 526.)

This is cured with Diluters, soapy and acid Medicines and Diet. *ε.* *A briny Saltness*, from the Use of Salt or salt Things; this destroys the Vessels, breaks the Liquids, makes them sharp; hence a Wasting, a Solution of the Vessels, Extravasations of the Liquids not putrefying soon, but producing Spots. 'Tis cured with Water, Acids, and the Use of Lime-water. *ζ.* *An Alcali* (76, to 91.) *η.* *A Glew* (69, to 76.) 2.

From a too great Power of our Faculties over the Things assumed (50, to 58. 92, to 106.) 3. From the spontaneous vicious Changes of our Humours (58, to 91.)

1092. Defects arise in the Humours of our Bodies in any Place from acute Diseases ill cured. *α.* *Purulent Diseases* (158. №. 5, 6, 7. 402.) which produce many Evils (936. №. 4. 941.) They are cured according to (492.) *β.*

Ichorus

Ichorous Diseases (158. №. 4. 106.) whose Effects are gnawing and consuming. They are cured with gentle, softning and thickning Means. 2. *Putrefied Defects*, which have been enumerated (1051. №. 1. 1. 2. 3. №. 3.)

1053. Acute Diseases ill cured in the solid or compound Parts, are apt to leave behind *Impostumes* (387. 402.) *Fistules* (413.) *Empyemas* (894.) *Schirrous Tumors* (392, 484, 485, 486.) *Cancers* (492. 494.) a *Caries* (526.)

1054. From these in simple Diseases (1051, 1052, 1053.) or any way compound with themselves, it is usual for almost an Infinity of others to ensue as their Effects: which therefore may be throughly known and cured from the History of those well understood.

1055. And as all chronical Diseases do, as it will be made evident, depend from thence, we must therefore fetch their general Doctrine and Division also from thence.

1056. So that it is also plain at first Sight, that those Diseases are indeed numberless, on account of their Symptoms, and yet not of so compound a Nature as to their Origin, nor do require such Variety of Medicines or Intentions in the Cure; thence one may also perceive and guess the Reasons of the long Continuance of most, and the Impossibility of curing many: all which will be made more plain in treating of them separately.

Of a Palsy.

1057. A Palsy is called that loose Unmoveableness of a Muscle, which is not superable by any Endeavours of the Will or vital Power: feeling is sometimes wholly lost at the same Time; sometimes that remains in a small Degree, with a Numbness, and like a slight pricking Sensation.

1058. Its proximate Cause is always a Hindrance of the Flux of the nervous Juice from the Brain, or of the arterial, into the paralytic Muscle.

1059. It may therefore be occasion'd, 1. By every Cause creating an Apoplexy (1010.) 2. All such as renders the Nerves incapable to let the animal Spirits pass through them. 3. That, which hinders the Ingress of the arterial Blood into the Muscle. Hence may be understood the Nature of a Paraplegia, Hemiplegia, and Palsy of a singular Part or Limb.

1060. So that an Apoplexy, a lighter Parapoplexy (1009, 1010, 1015.) the Falling-Sickness, Convulsions; a great and long continued Pain; the Suppression of all usual Evacuations with a subsequent Giddiness, as that of the Menses, Piles, Imposthumes, Fistules, Stool, Bladder, Spittle; Translations of any morbid Matter in acute or chronical Diseases; all that offends the Nerves by obstructing, separating, pressing, tying, twisting, turning aside or binding them strait; All thick Humours therefore, Wounds, Corrosions, Imposthumes, Gangrenes, inflammatory

matory Tumors in the Integuments of the nervous Marrow, in tendinous Tumours, or the Nerves themselves; serous, purulent, ichorous, scharrous and the like Tumours in those Parts; strong and strait Ligatures, Fractures, Luxations; very astringent Aliments, Medicines or Poisons: whence a very great Coldness, great Heat, a cold Moistness, too great and frequent use of warm Water, the Steam of Arsenic, Antimony, fresh quick Lime, Mercury, and other Poisons, are able to cause a Palsey. " Ramazzini in his " *Treatise of the Diseases of Tradesmen* observes, " that most people working in Quick-Silver or " Pewter Mines, Glasiers and Gilders, &c. are " all subject to Palsies and Tremors.

1061. The proximate Cause (1058.) and the remote ones (1059, 1060.) and consequently the Palsey itself produced by them doth occasion various and sundry Effects, according to the different Seat, where that Cause doth rest; according to the Different Degree in which it rests there; according to the Difference of the Part affected, as that is more or less necessary to Life, and that more or less immediately in itself; for from thence it is known to be more or less mortal, curable or incurable.

1062. A Palsey of the Heart, Lungs, Muscles that are the Instruments of breathing, and those of the Gullet do kill very soon: that of the Stomach, Guts, and Bladder from inward Causes is very dangerous: that of the Muscles of the Face is of an ill Consequence, and easily terminates and changes into an Apoplexy.

A Paraplegia is very dangerous, a Forerunner of an Apoplexy, and is mortal when that follows. A Hemiplegia is very bad, of a Kin with the Paraplegia, and therefore kills with an ensuing Apoplexy: that which is accompanied with a Coldness, Insensibility, and Wasting of the Part, is bad, and seldom curable: that which comes on with a strong Convulsion of the opposite Part and a great Heat therein, is bad: And from the Opposition and Comparing of these it is known which is curable and least to be feared, and which is so often the Cause of a sudden and inevitable unforeseen Death, without scarce any such concomitant Symptom as shou'd and could have made you sensible of the Danger.

1063. All which (1057, to 1063.) if any body applies to all the Muscles appertaining to any Function whatever, he will understand the Causes of an infinite Number of very wonderful Diseases, and will be also acquainted with their Diagnostics and Prognostics.

1064. Nature has cured this Disease by attenuating and dissipating the morbid Matter, by depositing a defective and even vicious Crisis to the Outsides of the Brain, its Ventricles, about the Medulla Oblongata, the Spinalis Medulla, the Egress of the Nerves from the Medulla and the Nerves themselves; by loosening the impacted Matter with the Help of a great Fever; stirring it by a convulsive Motion of the Part; or carrying it off with a great and long continued Looseness.

1065. The Cure requires the Removal of the Cause (1059, 1060.) which hindreth the Function

Function of the Nerves and Arteries, and then
the restoring of the free Influx and Reflux.

1066. The hindring Cause is removed many ways, easily found out, when the Nature of the Cause itself is sufficiently known.

1067. If that Cause, dwelling within, be thick and stagnating, those Means ought to be used, which may produce those Operations, by whose Assistance we have seen, that Nature (1064.) herself can cure.

1068. The Cure therefore is attempted, 1. With attenuating and dissipating Means. α. Aromatic, Cephalic, Nervine, and Uterine Plants, administered in the Form of Juices, Infusions, Decoctions, Extracts, Spirits, or Con-serves. β. Fixed Salts made from them by burning them whole, or volatile ones extracted from them by Distillation or Putrefaction. γ. Oils, also produced from 'em by Expression, Coction, Infusion, or Distillation. δ. Soapy Salts and Oils artfully made out of their Conjunction. ε. Ill savour'd parts of Animals, Juices of Insects, Spirits, Oils, Salts, and Tinctures. ζ. Fossil Salts, Crystals from Metals, and such as are mostly made up of them. η. Mixing all these things with that Prudence that they may help each other: And by the use of them we may promise ourselves to attenuate, to dissipate the foreaid Matter, and also to raise a beneficial Fever. 2. With powerful Stimulants, and such as will drive out all the strongly impacted Matters, by causing a trembling Motion in the Nerves, or even Convulsions: To this Class belong mostly such as

will promote strong Sneezing and Vomiting ; chiefly if they are repeated sometimes. 3. With hot, resolving aromatic Purges from Vegetables or sharp Fossils, or Mercurials, or Preparations of Antimony ; and therefore with such as are celebrated by the name of Hydragogues, given in a large Dose, repeated several Days successively : by whose Aid a long continued Looseness with great Evacuation by Stool may be created. 4. Filling first the Vessels of the Body with great Quantities of such attenuating Decoctions as have been premised ; then occasioning greater Motions, and large Sweats by means of Spirits of Wine set a fire in a particular Manner for that Purpose.

1069. Dry external Frictions, causing Heat to a Redness, are beneficial, or accompanied with the Applications to the Skin of Spirits endow'd with penetrant or stimulating Qualities, whether from Animals or Vegetables ; or anointing with Oils, Liniments, Balsams, Ointments, or other nervous Medicines : Baths of all Sorts and Stews. Of all the artificial Baths and Stews, none can be compar'd to the natural hot Baths, of *Bath* in *Somersetshire* chiefly when assisted with the Pump : The Cures of this sort of Palsey effected by them, are so many and so notorious, that it is needless to enlarge upon it It were only to be wish'd that those that come hither for that Purpose, either wou'd or cou'd stay longer than they commonly do ; and did not rely on their Return another Seafon to perfect the Cure, as I have

known several of my own Patients do since my settling at *Bath*. Sharp, aromatic, drawing Plaisters; Cupping-Glasses, Scarifications; Blisters, Whippings with such as will create a Pain and a slight Inflammation in the Parts, as Nettles, and the like.

1070. But Care must be taken above all, that all these (1068, 1069.) Remedies be directly applied as much as possible to the Seat of the Cause: The offended Part it self, (many being affected in the same manner at the same time.) The Knowledge of the Muscles, Nerves, their Union, Origin, Spreading, and the understanding the several Functions of each; all these compared together, will most clearly demonstrate the Seat of the Evil.

Of the Falling-Sickness.

1071. A Distemper of a quite opposite Genius to the latter, is what is call'd *an Epilepsie*; which we know to be present, when any Body is thrown down suddenly with the Loss of internal and external Senses, with violent Concussions, and reciprocal involuntary Motions of all or some of the Muscles; with alternate Rest and new Insults of them.

1072. This Disease wonderfully different in its many Aspects doth often appear so surprizing, that it has in all Ages been attributed to the Gods, Devils, Divine Wrath, Witchcraft, and the like Causes above, and greater than natural ones.

1073. For there is no one Gesture, Inflexion, or Posture of the Body known, which it has not shewn at some time ; and it emulates all the Motions of running, walking, turning, bending forwards, lying down, standing upright, or keeping the Body in a very stiff and almost insuperable Action.

1074. Yet all these Varieties do only consist in the Changes of Motions of some moveable Parts, which consequently are muscular ; so that they only suppose various Contractions of the Muscles, and therefore only various Influxes of the nervous Juice ; hence a various Expression of the same from the Sensorium Commune into the Nerves ; And lastly, the various Causes which produce these Expressions in the Medulla Cerebri ; which will be best understood by giving an Historical Account of those Causes.

1075. They are, 1. *Hereditary* from a Family-defect on the Father or Mother's side, coming immediately from the Parents, or Ancestors ; for it is common for this Disease to jump over a whole Generation, and to fix again on the Grandchildren. 2. *Born with* the Patient, from the strong Impression the Mother has received by looking on an Epileptick Person in his Fit. 3. Proceeding from *the Brain*, ill affected in its Integuments, Superficies, Substance or Ventricles ; either by Wounds, Bruises, Imposthumes, Pus, Saines, Ichor, Blood, sharp and fœtid Lympha, bony Excrencencies of the inside of the Cranium, its pressings down upon the Brain ; the cartilaginous Nature of the Sinusses of the Veins ; Frag-

ments or Splinters of Bones, or Instruments hurting the Meninges, or Brain, or Quick-silver carried to the Brain any how. The same Brain ill disposed by an Inflammation, Corruption, or Corrosion of the Meninges, from the Caries of a Bone, black Choler, or Venereal Ulcers. All these Causes do the more Mischief as they are increased by all such things as do increase the Influx of the Liquids into the Cranium ; such as a Plethora, Motion, Heat, Drunkenness, Gluttony, immoderate Venery , an acute and deep Judgment, profound Meditation, great Passions of the Mind, a strong Fancy and Imagination ; but above all, Frights and Terrors. 4. All violent Affections of the Nerves, as all great and periodical Pains, hysterick Passions, Gnawings and Irritations from Worms, Teeth, sharp Humors, turn'd Milk curdled like Cheeze, or grown sour ; any other Acid in Infants, Diacodium or Diascordium given them unseasonably, the Contagion of the Small Pox in their first State, violent Pains at the Mouth of the Stomach (commonly called by the unskilful, a Pain at the Heart) an ulcerous Matter lurking somewhere ; Fasting, Surfeit, or Sickness after hard Drinking, sharp Meat or Drink, Medicines or Poisons. 5. From the Stoppage of some Matter used to have its free Course, whether sanguis Blood, Pus; the Menses and Cleansings in Women; the Piles or Urine in both Sexes, but chiefly the former in Men. 6. Some Fumes which bring the Fits on again ; Some Matter deposited in
some

some part as in a Nest ; whence it mounts up to the Brain with the Perception of a raised Vapour.

1076. All which (1075.) Historical Observations, and the Anatomy of Bodies have made plain, beyond Dispute.

1077. The Effects of this Illness may be reduced to 1. The Diseases of the Brain vitiated by the many repeated and strong Convulsions ; whence a wavering of Memory, Stupidness, Foolishness, Palsies, Apoplexies, Death. 2. To the Diseases of the Nerves and Muscles ; whence the Distortions, Contractions, and Deformities of them and the Limbs. 3. To violent Cramps, whence Inflammations, Gangrenes, a Blackness of the Parts, the most abounding in Blood, chiefly such as are situated above the Muscles. 4. To some Secretions made violently at the very Assault of the Paroxysm, as are Meat, Drink, Lympha, Bilis, Froth, Snivel, Spittle thrown upwards ; and green Stools, Seed, and Urine downwards ; Blood also thrown up or down may be ranked amongst the Effects.

1078. Hence may be understood, which be hereditary ; And why that is never curable ; that which is Idiopathic why seldom curable ; but the Sympathic why often curable.

1079. It is also evident, that different Medicines and different Indications are requisite to cure this Disease, according to the known Variety of the Cause, the peccant Matter and Place, to which the Remedy ought to be applied, and by which the Evil itself is to be fetch'd out.

1080. For the first and second Cause depending on the wrong Construction of the Solids (1075. N° 1, 2.) doth hardly admit of any total Eradication of the Evil, but may safely carry off the Causes of the Paroxysms, which are renewed as they are continually growing afresh. So that those, which are infinite in Number, and not to be known but from Observation, are to be diligently search'd into, and then to be cured according to their Nature.

1081. The Third (1075. N°. 3.) is known from other Symptoms, which likewise indicate the Brain to be offended, as is Pain, a Heaviness, Fulness, a received Injury on the Head, a Vertigo, a general Trembling, a Sparkling, and Unmoveableness or Fixing of the Eyes, a winding round of the whole Head or of the whole Body. The solid Cause of this can hardly be removed, because it is very seldom that a singular one be known; here Revulsions and dissipating Means are useful, such as clear and depurate the Passages: Hence Bleeding, Purging, Vomiting, Burning, Issues, Fistules, a Blister, a Wound of the Head, the Trepanning of the Skull, Antihysterics and Opiates are useful: Which must be learn'd from the Discovery of the proximate Cause of the Disease. (1079.)

1082. That which proceeds from the Fourth Cause (1075. N°. 4.) ought to be treated differently, according to the different Nature of its proximate Cause: Hnce do all Anodynes, Purgatics, Narcotics, Antihysterics, Antihelminitics (that is, Medicines against the Worms;) such

such as soften and correct Acrimonies, a seasonable Cutting of the Gums; The Ablation, and Correction of the present ulcerous Matter: all these, I say, become by their Operation Antepileptics.

1083. An Epilepsy created by the Fifth Cause (1075. N^o. 5.) may be remedied by dissolving the Matter unfit for stirring, loosening the ways, and driving the same out of the Body. Hence do so often succeed in this Disease Blisters, Caustics producing Issues or Fistules; forcing Medicines, such as provoke the Terms, and open the Piles, and Diureties.

1084. But those that proceed from the Sixth Cause (1075. N^o. 6.) may be removed by Cutting the Weakness of the System of the Nerves, too easily stirred up; which is best done by the exercise of Motion, Playing, riding on Horseback or in a Chaise; the use of Aromatics, of Steel and strengthning Medicines and Diet: then by procuring an Ulcer, upon the Place where the Matter lyeth lurking, to be made deep and lasting, by Cutting, Caustics or Blistering; Then keeping the same running for a long while by means of suppurating Medicines mixed with Corrosives: Lastly, by Ligatures pressing upon the affected Nerve.

1085. Hence is sufficiently exposed the Vanity of the celebrated Specifics and Methods, which boasting idle People do brag of in this Disease.

1086. And it is evident also, that the proximate Cause of all true Epilepsies is always the

to great action of the Brain upon the Nerves which are the Organs of Motion, and the privation of that in the Nerves dedicated to Sensation.

1087. And that the Causes, which create the reciprocal Paroxysms, are many in Number and Variety.

1088. And lastly, the Origin, Nature, Effects and Cure of the particular Cramps or Convulsions, of the *Opisthotonus*, *Emprosthotonus*, and the Universal *Tetanos* are also evident; as they are nothing else than a kind of a singular Fit of an Epilepsy.

Of Melancholy.

1089. Physicians call that Disease a Melancholy, in which the Patient is long and obstinately delirious without a Fever, and always intent upon one and the same thought.

1090. This Disease arises from that Malignancy of the Blood and Humors, which the Antients have called *Black Choler*: and again, though this Disease doth begin in what is called the Mind, it yet doth render the Choler black in the Body very soon.

1091. It will be therefore needful to draw a small Sketch of this wonderful Disease, whose Doctrine is supposed commonly to be so dark, that Antiquity is unjustly blamed for it.

1092. If the most moveable Parts of all the Blood be dissipated and have left the less moveable united, then will the Blood become thick, black, fat and earthy. And this Defect will be call'd

call'd by the name of an *Atrabilian Humor*, or *Melancholy Juice*.

1093. Whereof the Cause is whatever doth expell the most moveable, and fixes the rest : A violent Exercise of the Mind ; the dwelling Night and Day mostly upon one and the same Object ; a constant Wakefulness ; great Motions of the Mind, whether of Joy or Sorrow ; great and laborious Motions of the Body much repeated, chiefly in a very hot and dry Air ; hereto refer also immoderate Venery : rough, hard, dry, earthy Aliments, long used without any Motion or Exercise of the Body to digest them ; the like Drink ; Parts of Animals dry'd in Smoak, Air or Salt, chiefly of old and tough ones ; unripe Fruits ; mealy unfermented Matters ; astrin-gent, coagulating, sticking and cooling Medicines, and flow Poisons of the like Nature : Hot Fevers hanging about long, often returning without a good Crisis and going off without the Help of diluting Means.

1094. When this Evil (1092.) already bred in the Blood and produced by these Causes (1093.) doth yet infect equally all the circulating Masses of Humors, it will produce some Diseases, which will appear immediately, and are mostly as follow ; the Colour of the Patient internally and externally is first paler, yellower, more tawny, livid, black with the like Spots ; the Pulse slower ; Coldness greater ; Breathing slower ; the Circulation through the Blood-vessels free, more sparing through the Side-vessels and less free ; hence a slower, less, and thicker Separation of all the secretory

secretory and excretory Humors, a less wasting of them; a lessen'd Appetite; a Leanness; Sorrows; Love of Solitude; all the Affections of the Mind violent and lasting; an Indifference to all other Matters; a Laziness as to Motion; and yet a very great and earnest Application to any sort of Study or Labour.

1095. Its Matter therefore is the Earth and thick Oyl of the Blood united and closed up together, which is worse in its Effects, and more difficult to cure, according to its Degrees of Fluidity, Softness, Driess, Thickness, intimate Mixture and Time of being so.

1096. Hence are the Diagnostics and Prognostics plain enough, (though yet clearer from what follows) and the Rationality of the Cure doth also occur easy enough from these Principles.

1097. For as soon as it shews it self by what is said in the beginning of both, (1093, and 1094.) either as a Cause or an Effect, the Physician ought to procure a continual Change of Objects, and that without the Patient's Knowledge: and such ought to be chosen, which are able to raise a Passion opposite to the most predominant to him: Sleep ought to be procured him by diluting, softning, paregoric, narcotic Medicines, and by Rest; Let him breathe a moist and moderately warm Air; his Aliments be light, liquid, like unto our wholesome Liquors, recent, soft, loosening with a gentle soapy Faculty, and the Use of them continued long: Give diluting Medicines that soften the Acrimony, resolve the oily Earthiness, loosen the Vessels,

expel

expel with a gentle Stimulus: such are the Juices of thorough ripe Fruits, all things made up with Honey, Garden Herbs, and Broths made of them; Mineral Waters: The best Drink is a Ptilane sweetned with a little Honey. And above all things, great care must be taken to debar him from all the Causes of the Illness (1093.)

1098. But if that very Matter (1092.) be from the same Causes (1093.) grown thicker, tougher, and les moveable; it must necessarily be drove into the Hypochondriac Vessels; this the Nature of that Humor, the Seat and Condition of those Vessels and the Laws of Motion of the Liquids do demonstrate. Here it will gradually stop, be accumulated and stagnate: Then it is called an *Hypochondriac Disease*, or in usual terms in *England*, *The Spleen*; as it doth obfess the Spleen, Stomach, Pancreas, Caul or Mesentery.

1099. Hence it produces there gradually a Sense of a constant Weight, Anguish, Fulness, chiefly after eating and drinking; a difficult Breathing from the Bowels of the Abdomen being burthened; Impediments of both the Cholers, of the pancreatic, stomachic, mesenteric Juice, and of the Intestines as to the Confection, Secretion, Mixture, and Operation upon the Aliments; hence the first Digestion vitiated all manner of ways; a Corruption of the Aliments in a crude Acid, if they were of the vegetable Kind, or into a putrid Alical, or any oily Rustiness, if they were of the animal Kind; hence Belches, Winds, Cramps, Costiveness and very hard

Stools ; a Jaundice of a worse Sort than the First in (1094.) and all the bad Symptoms of (1094.) now grown much worse.

1100. When it is already grown to the Height of (1098.) and has shewn itself such by its Effects of (1099.) then ought no Time nor Means to be neglected towards the Cure ; for otherway the Evil soon grows terrible in its Nature ; and those Difficulties ought to be prevented if possible : If it continues in this State any time, it becomes incurable, and sometimes mortal, as will appear hereafter : If you attack it with purging Medicines, you only drive out the wholesome and moveable Humours, but the tough and bad ones do stay behind, whence the Disease grows worse still : If you attempt the Cure with stimulating and powerfully resolving Medicines, then doth often the loosen'd Matter grow very sharp, and throwing itself with a great Violence upon the tender Vessels of the Liver, it destroys them, whence many and incurable Ills.

1101. So that, 1. The Matter is to be render'd moveable slowly, inquiring into the Nature of the predominant Acrimony , then giving soapy Medicines in which there is an Acrimony predominant over that which is in the peccant Matter; these must be continued till the unequal and weak Pulse, a nauseating or a continual Pressing to go to Stool, an Anxiety, and a small Fever, do signify that the Matter is put into Motion ; And then, 2. Drive the same out immediately with a gentle opening Purge, a Glyster

of the same kind, Milk-whey, Mineral-waters, and the like.

1102. But if that very Matter of (1098.) already fixed, and drove in close, has been detain'd there long ; the same begins already to grow sharp and gnawing by its Stagnation, the Motion of the Bowels and the Heat of surrounding Parts ; new Matter is continually laid on, because the Obstruction is made already, and the same Causes do subsist ; hence it extends, gnaws, and corrupts the Vessels by its increased Bulk, its present Acrimony and continual Motion ; hence the like Destruction of the Spleen, Stomach, Pancreas, Caul, Mesentery, Intestines, and Liver, and consequently all the Evils of (1099.) do increase the former much, but disturb chiefly all the Functions, and above all, those of the Brain, by the constant Steam of the putrefied Matter received into the Veins. And then may it be called by the true Name of *Atra Bilis*.

1103. Which being discover'd by these its Signs, laid down in (1093, 1094. 1099. 1102.) cannot but with the greatest Prudence and Skill be thinn'd, moved or drove out, because of the Difficulties mention'd in (1100.) Which here are yet greater, and because that the Matter now arrived to its greatest Degree of Acrimony is easily stirr'd up, but very difficultly quieted again. Let therefore all his Diet be of a very opposite Nature to the known predominant Acrimony of the Matter, described in (1051.) Let the same always be gently resolving, stimulating, loosening by Stool, carrying off almost all the Excrements af-
ter

ter each Digestion ; his Drink be of a Ptisane with some Honey, or made of ripe Fruits, or Milk-whey; Let his Motions be gentle, but continued ; his Heat very temperate; his Sleep long; Let him frequently use Bathing, Fomentations, Glysters, and drink of those things which being free from Acrimony do thin the Matter by diluting, resolving, cleansing, and soaking, and then do expel the same very slowly and cautiously, and that only through the Passage that Nature directs, having always an Eye to the singular Acrimony, in this Case, which never fails of being present in view.

1104. But when that Evil of (1102,) is already advanced to a great Acrimony, with the Bowels much corrupted; If during the said (1102.) Causes, it be put in Motion and stirred up with a muscular Motion, the heat of Sun or Fire, a plentiful and sharp Diet, sharp and much stirring Medicines, which will ferment with the Sharpness of the Evil, Poisons that hurt by the same Operation, or lastly with some Diseases; Then doth the same (grown sharper and moveable and already changed into an Agent,) break, corrupt and dissolve its Vessels into a Rottenness, and change them with the very *Atra Bilis* into putrefied Bags ; and now it is the *Atra Bilis* become turgid ; and when this is brought so far, if liquified in its Vessels, and (transported towards and into the Liver, creeping into the consumed Ramifications of the Vena Cava) it be let into the Heart, then doth it create those pernicious Evils: For if it participates of a coagulating Acid,

it creates Polypusses of the Heart, Lungs, Aorta, Carotids, their ill Consequences and Death : If it reaches the Brain, it produces Apoplexies, Palsies, a Catalepsy, an Epilepsy, Deliriums, furious Madness ; and all those of the worst Sort and incurable. In the System of Arteries it changes the whole face of Things, it brings forth there terrible Fevers, which do putrefy all things very suddenly : If it participates of the putrefying Alcali, it creates Gangrenes, killing suddenly wherever it reacheth. Whence innumerable and incurable Diseases, over the whole Body and each singular Part, unless this Sink and Nest be cleansed and stopped up. But if the Matter, having eat through the Vessels of the Bowels, doth fall into the Cavities of the Peritoneum, there ariseth immediately a very great and insuperable Weakness ; a Putrefaction and an Accumulation of the sharp delapsed Matter ; Then a gangrenous eating of all the abdominal Entrails, whence most surprizing and terrible Phænomena ; a Tympanitis ; Death with a prodigious Stench. But if the same, when put into a Motion, doth throw it self upon the Liver, and from thence through the dilated and eaten bilious Vessels into the Gall-bladder, the Ductus hepaticus, the common Ductus, the Intestines ; Then doth it create Loathings, Vomitings, atrabiliar Bloody Fluxes, with an intolerable Anguish, Impetus, Pain and Gnawing, whence Inflammations, Ulcerations, Putrefactions of the Intestines, Stomach, Gullet, Jaws, and Mouth : Hence terrible Convulsions, and at last, a pretty easy Death following upon

upon the Gangrene, and consequently the Loss of feeling in all the Parts of the Body.

1105. But when the Matter is become as in (1104.) it has (together with a very great Toughness, not unlike Pitch) a most sharp acid Acrimony, which is able to eat into Metals, to make Earth ferment ; or an Alcaline, very corrosive ; or an oily putrid Salt which is worst of all. All which distinct Sorts, whence they come, how they are known, how cured, has been sufficiently demonstrated before from (58. to 107. and 1051, 1052.)

1106. And it is easy to all, who consider what was said in (1000. 1003, 1004.) and the Seat, Structure and Circulation of the Bowels, in which this malignant Humour doth reside, that this Disease is greater than to admit of a Cure. But the chief Helps are such as dilute with a Sharpness of an opposite Nature to the predominant Acrimony, or *Opium* to qualify its effects.

1107. From which (1090, to 1107,) the Nature of Melancholy and Hypochondriac Diseases as described in (1089.) is known : for it is evident, that from a long continued preceding Sorrowfulness, the Vessels of the abdominal Bowels create a Stagnation, Alteration, and Accumulation of black Choler (1092. 3. 5. 1098. 1102. 1104.) Which insensibly increaseth, though the Body was very healthful but a little before : And also that the same black Choler, when bred from bodily Causes, doth produce that Delirium of (1089.)

1108. The apparent Causes of Melancholy (1089.) therefore have been observed to be, 1. All things, which fix, exhaust, or confound the nervous Juices from the Brain; as great and unexpected frightful Accidents, a great Application upon any Object whatever, strong Love, Walking, Solitude, Fear, and hysterical Affections. 2. Those which hinder and confound the Confection, Refection, Circulation, the various Secretions and Excretions of the Blood, chiefly if done in the Spleen, Stomach, Caul, Pancreas, Mesentery, Intestines, Liver, Womb, or hemorrhoidal Vessels: and consequently any hypochondriac Disease, acute ones imperfectly cured, and chiefly a Phrenitis, or a burning Fever; all exceeding Secretions and Excretions, eating, and drinking of cold, earthy, tough, rough, or astringent Aliments; too great a Heat long continued, which doth as it were roast the Blood; a stagnating, fenny, or too shady Air. 3. A natural Disposition of the Body, such as a black, hoary, dry, lean or manly one; a middle Age; a sharp, deep and penetrating Judgment.

1109. If this (1089.) Disease doth continue long, it occasions Foolishness, Epilepsies, Apoplexies, furious Madness, Convulsions, Blindness, wonderful Fancies, Laughters, Cryings, Singings, Sighings, Belchings, Anguish; great Evacuations of Urine, sometimes clear like fair Water, at other times very thick; a Retention, Accumulation, often a sudden Excretion of bloody Fæces in the Vessels of the abdominal

Y Viscera;

Viscera; an obstinate Costiveness, a thin and frequent Spitting, and they can endure to be without Sleep, Aliments, or Fire, even to a Wonder.

1110. A Cure has often unexpectedly been obtain'd at the Appearance and Breaking out of a nasty Itch sometimes coming up and resembling a Leprosy; or numerous Varices and them very large; or flowing of the much swell'd Piles; or at the voiding of black Choler upwards and downwards.

1111. It grows much worse upon the taking of any Medicines, that weaken and evacuate roughly; or again upon the taking of such as put the Liquids into a violent Motion, whether they be Cordials, or cried up under any other Title.

1112. So that the best Method to cure this Disease, is to apply different Remedies, and opposite to the different Sorts known from the exact Observation of the proximate Cause and different Constitution of the Patient.

1113. 1. The Indications will be therefore to excite, increase, and bring into a good Order the Liquids of the Brain and Nerves; which is done,
 α . By withdrawing the Mind from the usual Object to others contrary to the same. β . By causing and raising very artfully another Passion of the Mind, contrary to the constant Melancholic one. γ . Sometimes by Siding with them in their false and depraved Fancies. δ . Or often by opposing the same with a great Force.

1114. 2. By

1114. 2. By opening, softning, cutting, stimulating the Obstructions, or the Cause, or the Effects of a false Imagination, with Mineral waters, Milk-whey, Water and Honey, Splanchnick, Hepatic or Antihypochondriac Decoctions; Waters made effectual with the addition of lixivious or compound Salts; loosening Mercurials, Vomits, Motions, Exercises, Riding, or going in a Boat; Medicines which evacuate from the Womb (as are the Aristolochia) or the Piles; Bathings, Ointments or Plasters.

1115. 3. Easing the Symptoms with bleeding, ducking into cold Water; by Carminatives and Opiates.

1116. 4. After the just mention'd Evacuations, (1114, 1115.) By giving such as Experience doth shew us to be exhilarating and to strengthen all the Parts of the Body.

1117. From which (1110, to 1117.) it appears, that the Cure of this Disease (1089.) is perfected in curing the black Choler (1097. 1100, 1101. 1103. 1106.) And that we must hence learn the Cure not only of this Disease, but of an infinite Number of others, which are wrongfully reputed incurable.

Of Madness.

1118. If Melancholy (1089.) increases so far, that from the great Motion of the Liquid of the Brain, the Patient be thrown into a wild Fury, it is call'd *Madness*.

1119. Which differs only in Degree from the sorrowful kind of Melancholy, is its Offspring,

Y 2 produced

produced from the same Causes, and cured almost by the same Remedies.

1120. In which Disease the Patient generally shews a great Strength of the Muscles, as incredible Wakefulness, a bearing to a wonder of Cold and Hunger, frightful Fancies, Endeavours to bite Men like Wolves, or Dogs, &c.

1121. And we must take notice that by Anatomical Inspection it has been made evident, that the Brain of those is dry, hard, friable, and yellow in its Cortex; but the Vessels turgid, varicous and distended with black and very tough Blood.

1122. And also that almost all the Excretions are suspended.

1123. The greatest Remedy for it is to throw the Patient unwarily into the Sea, and to keep him under Water as long as he can possibly bear without being quite stifled.

1124. When all Remedies have been tried in vain, it has sometimes happen'd that varicous Tumours, Piles, Dysenteries, Drop-sies, great Hæmorrhagies come of themselves, and Tertian or Quartan Agues have cured this Disease.

1125. This sort of Madness is occasion'd sometimes after the Body has been exhausted by an autumnal, strong, obstinate intermitting Fever, and not only thus weaken'd by the Disease, but by repeated Bleedings, and Purges; which same will also occasion the return of this Disease.

1126. This sort is cured only with restorative, replenishing Cordials, strengthning Aliments and Medicines long continued: But if you attempt
the

the Cure of it by Evacuations, you'll cause a Wasting, Weakness, and an insuperable Foolishness. " *NB.* See *Sydenham's Treatise of the intermitting kind of Fevers from the Year 1661. to 1664.*

1127. But a Madness bred in strong, hale, youthful, plethoric People of a hot Constitution, is cured by the same Means as that sort of Epilepsy in (1081.) By repeated letting of Blood, and strong Purges between each Bleeding, and afterwards when you have lay'd his Fury, and have brought him to his Senes, then give him Cordials and Opiats.

Of the Dog-Madness.

1128. There is still another Disease, which is conveniently mentioned now, because of its Companion, the furious Madness, and ought to be treated of by itself, because of its desperate ill Nature.

1129. It's called Fury or Madness, and because mostly proceeding from the bite of Dogs, a *Dog-Madness*, and from that terrible Symptom of fearing Water, an *Hydrophobia*, &c.

1130. It almost ever arises from other Animals, which were first mad, and that by Contagion: Though also sometimes of its own accord in some acute Fevers, as has been observed, and we find recorded.

1131. Almost all sorts of Animals may be affected with this Evil, and by their Contagion infect others and even Men.

1132. Dogs, Cats, Wolves, Foxes, Horses, Asses, Mules, Oxen, Sows, Monkeys, Turkey-Cocks, Men; all these being first mad themselves, have communicated the same Madness to others.

1133. But it is common to none, so frequently as to Dogs, Wolves, and Foxes, and these it invades chiefly from inward Causes, without catching it from any others.

1134. A hot Country; a Country open and exposed to violent Heats, or to very cold raw Weather; hot and dry Weather long continued; The living upon rotten, stinking, and worm-eaten Meat; Want of Drink; Worms grown in the Kidneys, Guts, Brain, or the Inside of the Nostrils; All these are preceding Causes of Madness in Beasts just now mentioned.

1135. The Signs of a beginning Madness are chiefly these, at whose appearance also due Care must be taken to avoid other Animals or Men being infected, by removing them, &c. They first grow sad, chuse to be alone, hide themselves, are dumb as to their barking or other usual Noise, but yet grumbling; they are averse to all Meat and Drink, they are provoked at the Sight of all Strangers and fall upon them, however yet remembering and fearing their Master; they hang down their Ears and Tails; they seem to sleep as they go along: And *this is the first State of the Illness*; and if they happen to bite then, it is dangerous, but yet nothing near so bad as afterwards. Next they begin to pant, loll out their

their Tongue, froth much about the Mouth, and gape; You'll see 'em sometimes walk as if they were half asleep, and presently again run on very quickly, and that not always strait forwards; after this, they scarce any longer know their own Master, their Eyelids hang down, they seem to weep, to have dust in their Eyes; their Tongue is of a Lead-colour, they suddenly grow very thin, mad and furious: *This is the second Degree of the Illness*, which they can hardly endure longer than thirty Hours; after which they die. A bite from them in this State is almost incurable: And the violenter the Madness is, the longer they have been affected, and the nearer to their End, so much the more mortal is the Bite, the sharper and the more violent the Symptoms, which come on very suddenly; and so on the contrary, &c.

1136. There is scarce any Poison that infects so many ways; For the slightest Bite imaginable through ones Clothes, only scraping and not deep enough to fetch blood; The Contact of fresh Froth, or even of such as has been dried up some time, applied to the Lips or Tongue: A Kiss only given to a mad Dog; The handling much of an Instrument or the Wound by which the Animal has been kill'd some time since; The eating of the Meat or Milk of a mad Creature; The feeling and often handling of Things that have been infected by any of the just mentioned; All these will infect Man or Beast.

1137. Again, There is scarce any Poison known, whose Malignancy is so terrible, and occasions

casions such prodigious Changes in Men; and which, when it has once begun to shew itself, doth so suddenly and so furiously rage, and which notwithstanding can at other times lie conceal'd so long, before it be discover'd. For some People are immediately affected with the Symptoms of this Disease, some not till twenty Years after they were bit, and some are more or less disorder'd all the while, between its first Occasion and its last Scene: This Difference depends from the Heat of the Weather, from the several Degrees of Infection in the Animal that did bite, (1135.) the Constitution of the Person who received the Hurt (for choleric Men are sooner and quicker affected, but phlegmatick or dropsical People slower.) And lastly, from the different Diet and Application of Medicines.

1138. When a Man in perfect Health is infected with this Poison, (1136.) after different Distances of Time (1137.) he begins to be disorder'd much after the following manner: The Place pains him, where he first of all receiv'd the Injury; then follow wandering uncertain Pains in other, but chiefly the nearest Parts; a Weariness, Heaviness, Slowness succeeds in the whole System of the Muscles; his Sleeps are disturb'd, uneasy, full of Frights, Convulsions and Catchings in the Tendons; he is continually restless, sighs, looks dejected and affects to be alone; and it is much after this manner, that *this Disease begins and finishes its first Stage*: If you bleed him then, the Blood doth not carry the Face of any Defect. Then are all the foregoing Symptoms increased,

and

and there follows besides, a prodigious Narrowness and Pressure about the Heart and Chest, Breathing is difficult, and accompanied with Sighs ; he frequently shakes all over ; his Hairs stand an end, and trembles all over at the Sight of Water, of any sort of Liquors, or even upon the Sight of transparent Things, or reflecting like Looking-glasses ; he loses his Appetite entirely, yet he can swallow any thing that is very dry and solid : The Touch of any Moisture chiefly with his Lips or Tongue creates an incredible Anguish, Tremors, violent Convulsions and a Raving ; he vomits tawney, glewish Choler or green-like Leeks ; he grows very hot, feverish, sleepless ; is troubled with a Priapism ; and he thinks very disorderly of things quite foreign and unusual. Thus doth it go on, and *here absolves its second Stage.* Afterwards doth every thing constantly grow worse, and you'll soon see him loll out his rough and dry Tongue, gape wide, speak hoarse, have a great Drought, grow raving at every Attempt to drink, at the Sight or Touch of any Liquor ; gather Froth in and about his Mouth ; endeavour the Spitting of the same upon the By-standers even against his Will ; bite and snap at every thing within his Reach, and that involuntarily, nor yet to be withheld from those Attempts ; he gnashes his Teeth with Froth, snarling like a Dog ; his Pulse and Breathing begin to fail, cold Sweats break out on all sides, he raves in the highest Degree, notwithstanding which he is all the while sensible and is afraid for the By-standers, that he shall unwillingly hurt 'em.

'em. Hence you may always reckon upon his dying (within the fourth Day from the first State of his Illness,) convulsed with a most terrible Anguish upon drawing his Breath.

1139. From this whole History (from 1129, to 1139.) the Nature of this Illness may be understood: The Prognostic may be drawn from the Consideration (of 1135, 1137, 1138.) at the same time always preparing for the most dismal Events; for since Physick has been an Art, the most famous Physicians have been known to lament, *That there have been so few Examples of People preserv'd from Madness after they were bitten by mad Animals: But that there have been certainly none saved after their arrival to the Symptom of dreading Water.* But it is mostly deplorable, that after so many Ages, which have complain'd and bemoan'd the useless Application of all the hitherto commended Remedies, no Method shou'd have been attempted different from the former.

1140. The Anatomy of Bodies has shewn, that the Organs for Swallowing are most times inflamed; that there is a bilious Glew of several Colours in the Stomach; that the Gall-bladder is full of black Choler; that the Pericardium is quite dried up; that the Lungs are surprizingly full of Blood detain'd therein; that the Heart is full of almost all dried up Blood; the Arteries full, the Veins empty; the Blood very liquid, which hardly wou'd run together when exposed in the Air, yet when let out of the Vein it wou'd coagulate before three Days time; that all the Muscles,

Muscles, Bowels, Brain, Cerebellum and Medulla Spinalis are dryer than usual.

1141. The Cure has hitherto, (if you except a few Cases,) been very doubtful and unsettled, and not only the Therapeutic, but also the Prophylactic. The first and chief reason of this is the vain Boasting of many having specifick Remedies; and then the Neglect of a Method, which might be deduced from the known Nature of the Disease.

1142. As much therefore as we may conclude from this whole History of the Disease, the comparing it with others, and considering the happy Event of a few Cases; it seems first to be, *a nervous Case*, which most properly ought to be ranked with Convulsions, which invade the Bowels and their Vessels; that from hence a Defect is communicated to the Blood and Humors, which is very much resembling a gangrenous Inflammation; and that the Seat of this Evil is first about the Stomach and neighbouring Parts.

1143. The Method to preserve one that is bit from farther Harm, requires, 1. That immediately after the Poison is communicated, the whole affected Place, together with the surrounding, be immediately scarified very deep, and Blood be drawn to a great Quantity, by Means of large Glasses laid over the scarified Parts; or the same be burn'd deep with a red-hot Iron; then the Part be made to suppurate for a long while, by means of such things as ulcerate by their constant Corrosiveness; in the mean time, from the Beginning

of the Cure to the End, foment the Parts with Pickle made of Bay-salt and Vinegar ; and these things ought to be continued, till over the sixth Month from the first Accident. 2. The Clothes, and other Things, which may have been touched with the Poison, or that the mad Animal has breathed upon, ought to be laid aside and carefully avoided. 3. Immediately after the Infection is known, he ought to be thrown and hurried into great Frights, using even violent Threats, to be thrown unawares into the Sea or River, to be held some time under Water, and dipp'd again, repeating this several times with the same Circumstances : For that this Submersion cures no other ways than by the prodigious Disturbance it occasions in the Spirits, and not by the Quality of the salt Water is too well known from what has happen'd to those poor Wretches, who in helping to hold a Patient in this Case under Water were bit by him ; for they have not escaped the highest degree of Hydrophobia, notwithstanding they wou'd fall to swimming and to ducking in salt Water for many Hours from the Moment they felt themselves bit, thinking thereby to prevent all Harm. Let him afterwards be purg'd often and very strongly with Rhubarb, Agarick, and the Juice of Elder Bark. 4. Let him be made to sweat every Morning fasting, by giving him some spiced Vinegar, with Bay-Salt and Plenty of hot Water. 5. Let him wash and bathe daily his Hands and Feet, his Head and Mouth, and swim often. 6. Let him frequently drink cold Water, and as often vomit it up again, after which

let

let what he drinks be acidulated, or made sharp. Let his Diet be moist, light, loosening, and often in such a Quantity till he vomits it up again; forbearing the Use of too many Aromatics, Wine, heating Means, and also too great Motions of the Body or Passions of the Mind.

1144. But the Cure of the Disease already present ought to be attempted, and chiefly in the first Stage, and the Beginning of the second (1138.) the more, because the least Neglect is attended with a very fatal Event. It looks the most promising, and it is confirmed with a few Examples, that the following Method is like to succeed best and ought to be taken. 1. Immediately after the first Signs of this Evil's invading (1138.) it ought to be treated like a Disease of the fiercest inflammatory Kind (890.) Letting blood out of a large Orifice of a large Vessel to a large Quantity, and even to Swooning; then giving Glysters made of nitrated Water, moderately salted, with a little Vinegar: These must be repeated boldly, and even more than Prudence wou'd allow of in most Diseases: In the Intervals of these he must be blinded and thrown into a cold Pond, or be made wet with the continual throwing of Water upon him, till he doth not seem any more to be afraid of Water, or but little; Then immediately upon this, force him to drink a large Quantity of Water, and procure him Sleep at Night, no otherways than by fatiguing him into it by those Means: Let his Diet be very thin and always moistning.

1145. And as this Method is built upon the Nature of the Illness in all its Circumstances, and upon all the reasonable Rules of the Art; so it seems nothing is more destructive than to murder as it were, and tease these poor Sufferers with sharp, heating, drying Medicines, and by their Roughness very much affecting the Nerves, all which are Poisons in this Case, where the Patients are already dried up by their very Disease. And again, nothing is more cruel, than neglecting all Means whatever to abandon these poor Wretches from the Beginning, or to stifle them between two Beds.

1146. Nor ought we yet to despair of finding out one time or other a peculiar Antidote for this Poison, seeing we have succeeded in Poisons thought formerly as destructive.

1147. But hitherto we have not met with any one, which deserves Credit enough to be entrusted with the Life of People thus miserably afflicted; for no one is known whose Experiments be certain, but they owe their Birth either to Speculation, or they have been copied from others, and taken upon trust; *not excepting here* the Secret of burn'd Crabs of *Æschrio*, mention'd by Galen and *Oribasius*; nor the famous Electuary of *Scribonius Largus*, so cried up for being infallible in the Madness of the Sicilians; nor the Advice of *Peregrinus*, of putting on the Skin of the Monster called *Hyæna*, nor of the Ashes of River Crabs with the *Theriaca* of *Andromachus* cried up by *Aëtius*, *Rufus*, and *Posidonius*; nor the Secret bragg'd of by *Palmarius*; nor the too much

much exalted Pewter with Mithridate by *Mayerne, Grew,* and most Hunters; nor the Root of Cynorrhodon reveal'd in holy Dreams; nor the famous Earthy ash-colour'd Moss call'd *Lichen;* nor Pimpernel, the burn'd Liver of the Mad Dog, and the like: For whoever doth rely on these magnificent Trifles will find himself deceived. *NB.* "Upon this Disease see among the Ancients *Cælius Aurelianus,* and among the Moderns, *Martin Lister.*

Of the Scurvy.

1148. The Scurvy is a Disease very common to all Nations that inhabit the Lands near the North Seas; is the Cause of a great many others, is neither new, nor unobserved by the Ancients, though they have not left us a very exact Description of the same; which ought to be imputed to their being incapable of long Voyages by Sea, because they wanted the Compass, and that they were unacquainted with most Nations that do inhabit the coldest Climates of this our Earth.

1149. This Disease, as it often deceives by its many and various Symptoms, cannot be made known any better way, than by narrating its whole Course, and then concluding upon its Nature and Genius.

1150. It rages in *Britannia, Holland, Sweden, Denmark, Norway, Lower-Saxony,* and the *Netherlands;* so that it chiefly infects the Northern Nations, and such as live in the colder Climates; and among them chiefly such as live near the Sea, fenny and overflown Lands by Salt-water,

Salt-water, Marshes, Lakes, Pools and Clay-lands, in Low-lands behind Dikes and high Causeys that keep the Waters out: It chiefly afflicts the idle, unactive People, such as undergo cold in Rooms paved with Tiles or Marble Stones in Winter weather (which is very common in *Holland*) Sea-faring People, who live upon salt and dried Meat, Biscuit, putrid Waters with Worms at Sea or on Shore; and also such as delight too much in feeding upon Water-fowls, Salt-fish hardned and dried either in the Wind or Smoak, Beef or Hogs meat pickled or dried, or upon unfermented mealy Food, as Peas, Beans, Salt, sharp and old Cheese; such as are much subject to Melancholy, Madness, the Spleen, Hysterics, or any other long Diseases: And chiefly such as have taken too much of the Jesuits Bark.

NB. " It wou'd be too much to say that
 " the Jesuits Bark doth never do any harm, even
 " when it is given properly; because some Con-
 " stitutions are very tender, and cannot bear its
 " Roughness in Substance; but yet it is as wrong
 " to accuse it of so many Mischiefs as Dr. Syden-
 " ham, and our Author doth here: I came
 " to *England* very much prejudiced against the
 " constant Use of it, but I protest that I am en-
 " tirely recover'd of that Prejudice, and think
 " now sincerely, that there is hardly any one Me-
 " dicine in Nature which is capable of so many
 " good, and guilty of so few ill Qualities; and
 " particularly in this case I absolve it, as being
 " rather able to induce into the Blood an Even-
 " ness of Mixture and a solid Contexture, than
 " to

" to break the same, which we shall see anon is
" one of the most obvious Causes of the Scurvy.

1151. And when it doth invade those, it commonly begins, increases, and arrives at its Height with the following Steps and Phænomena;

1. An unusual Laziness, Stiffness, Inclination to sit and lie down, a spontaneous Weariness all over, a general heaviness, a Pain of the Muscles as after too great a Fatigue, chiefly in the Legs and Loins, a great Difficulty in walking, chiefly up or down Stairs, and in the Morning upon first waking, in all the Limbs and Muscles, a Sense of Weariness and a smarting.
2. A difficult Panting, and almost deficient Breathing upon every little Motion; a Swelling of the Legs often disappearing, and an Unmoveableness of them from their Weight; red, tawny, yellow, purple Spots there; a pale tawny Colour in the Face; a beginning Stench of the Mouth; a swelling Pain, Heat, Itching and Bleeding of the Gums upon the least Pressure: The Teeth bare from the Receipts and Looseness of the Gums; various and wandring Pains all over the external as well as internal Parts of the Body, causing wonderful Torments resembling Pleurisies, Stomachic, Iliac, Colic, Nephritic, Cyptic, Hepatic, Splenetic Pains, &c. several though slight sorts of Hemorrhages.
3. A Rottenness of the Gums stinking like dead Bodies, an Inflammation of the same, dropping Blood, and a Gangrene; the Teeth growing

loose, yellow, black and rotten; the Veins under the Tongue have varicous ring-like Swellings; Hemorrhages frequently mortal, through the very external Skin of the Body, without any apparent Wound, through and from the Lips, Gums, Mouth, Nostrils, Lungs, Stomach, Liver, Spleen, Pancreas, Guts, Womb, Kidneys, &c. Ulcers of the worst Kind and obstinate, giving way to no Medicine whatever, easily gangrening, dispers'd in all Parts, chiefly in the Legs, and sending forth at the time of dressing a Stench, which subsists long; Scabs, Crusts, a dry and gentle Leprosie; The Blood, when drawn out of a Vein, is black in the fibrous Part, grumous, thick and yet loose and broken; salt, sharp, full of a yellowish green Mucus on its Surface in the serous Part: Violent gnawing, stabbing, and quickly piercing Pains, increased at Night all over the Limbs, Joints, Bones, and Bowels; and livid Spots up and down.

4. Fevers of all Sorts, hot, malignant, intermitting all manner of ways; uncertain, periodical, continued, occasioning an *Ατροφία*; Vomitings, Loosnesses, Bloody-Fluxes, sharp Stranguries, Faintings, and often suddenly mortal Anguishess: A Dropsie, Consumption, Convulsions, a Trembling, Palsie, Contractions of Sinews, black Spots, vomiting and voiding of Blood in great Quantities by Stool; a Putrefaction and Wasting of the Liver, Spleen, Pancreas and Mesentery; and a quick Communication to all other Parts.

1152. Whence

1152. Whence it appears, that the Nature and Effects of this Disease are easily gather'd from the Consideration of what went just before.

1153. And that its proximate Cause is that Constitution of the Blood which is faulty, of too great a Thickness in one part, and at the same time of a sharp, salt Thinness, of the acid or the alkali kind in t'other part: Which two Phænomena are above all things to be duly weigh'd and distinguish'd.

1154. And that from the Knowledge of these, (1151.) all the different Phænomena of this Disease, though never so wonderful, may be deduced easily.

(1155.) Which will still more clearly be made out from the Rules, which the prosperous or unhappy Event has established, whereof the following are the most material.

1156. In this Disease, *The thick Humour must be made thin; what is stagnating render'd moveable; and what is sticking together made fluid.*

1157. And also, *what is too thin must be made more compact; what is too sharp be softned;* both in general and in particular.

1158. And in the correcting of the one, (1156,) Regard must be had always to the Nature of t'other (1157.) So that there is occasion for the greatest Skill in Physic to treat this Disease with Success.

1159. Sharp evacuating Medicines do always exasperate this Disease, and often render it incurable.

1160. So that one ought to begin α . In the Sort described in (1151. N° 1.) First with a gentle, attenuating, opening Purge, given often but in a small Dose. β . The attenuating and digesting Medicines must be continued. γ . And then ought to be used the gentlest specific Antiscorbutics for a long while in all Forms and Shapes. δ . At the same time all the Non-naturals are to be manag'd so as to oppose the Causes described in (1150.)

1161. When the Disease is in its Second Degree, (1151. N° 2.) Then will be of Service all things mention'd in the first (1160. α . β . γ . δ .) And besides, the Scorbatic Medicines endow'd with somewhat a greater Degree of Sharpness, in the form of Juices, Conserves, Spirits, Sal Volatile, medicated Wines or Beer: outward Bathings also, and washing of the Feet in Antiscorbutic Decoctions; hot and dry Frictions, or with the Liquors of the Specifick Plants; Letting of Blood may often be profitable to carry out at once part of the acrimonious Juice to lessen the Gnawing of it upon the too much distended Vessels, to procure a Revulsion, and to make room for such other Medicines as may be given inwardly.

1162. And in proportion as the Thinness is sharp, the Heat and Fear of Hemorrhages are greater; or as the Thickness, Sluggishness, Coldness, and Paleness of the Vessels greater; the Physician ought to prescribe Specifics that are moderately astringent and cold; or hot and somewhat sharp.

1163. And

1163. And to correct the Defects in the Mouth usual to this Sort, such ought to be made use of, as are Antiphlogistic, Antiscorbutic, and at the same time peculiarly proper to each particular sort of Scurvy.

1164. In the Third sort (1151. N^o. 3.) all the aforesaid are useful, but that the Patient ought at the same time to take large Quantities of soft, easily circulating Liquids, contrary to Putrefactions, Antiscorbutic, together with a gentle promoting of Sweats, Urine, and Stools, for a long while together.

1165. As to the Fourth sort it seldom admits of a Cure; the Method of Cure is to be varied according to the Variety of Symptoms; Mercurials are sometimes useful, and also those advised in (1164.)

From all which (1148. to 1166.) duly consider'd and compar'd with the Phænomena of the Disease and of dissected Bodies, it is evident, that to obtain a happy Cure of this Disease, it is above all necessary to find out the Nature of the vicious Humour, and each peculiar Acrimony which is peccant by its Predominancy; And as this Acrimony is either of a briny Salt, of a rough Acidity, or a foetid Alcali, or a rancid oleous Quality; and that we have already more than once treated of all these in general and particular, it is easie to have Recourse to it, and to form Rules for this peculiar Case: And it is evident also, why Milk-whey, Butter-milk, *Physical mineral Waters* have so often cured this Disease after it had been given over for incurable, and also what so t's

of Scurvy met with this happy Fate at last: Why and when the acid Juices of ripe Fruits, of Oranges, Citrons, Lemons, Pomegranates, great and small Sorrel, Vinegar, Rhenish and Moselle Wines, have so often proved Specifics in the Cure of this Disease: Why austere astringents, such as Rhubarb, Dock, Tamarisc, Capers, rough black Wines or red Wines, and some Preparations of Steel have often also proved successful, and when: And why again the roughest and sharpest Aromatics, Scurvy-graſs, Pepper-wort, Mustard-seeds, Aaron-root, Radishes of all sorts, Pepper, Ginger, the leſt sharp Houſeſeek, the alcaline volatil Salts, the Fixed, Oleous, Aromatic, and Saponaceous of a mixed Nature, why only these are often profitable: Why what is useful to one Scorbūtic Body must prove destructive to another: So that a true Physician ought not ſo much to mind the general Denomination of this Disease, but to apply himſelf to cure the ſeveral Kinds, as if they were Distempers of quite a different and contrary Nature. "N.B.
 " Camden in his *Britannia*, in the Description
 " of Kent, mentions a memorable Place out of
 " Pliny, where he speaks of the *Britannick*
 " *Herb*, which I take to be *Scurvy-graſs*: He
 " ſays, that Cæſar's Soldiers were ſeized with a
 " Disease called *Stomachace*, ſoon after they
 " had drank of the Water of a Fountain which
 " they dug up at the Mouth of the *Rhine*; which
 " he describes to have been an Affection of the
 " Gums, which made all or moſt of their Teeth
 " fall,

“ fall, and afterwards caused a Weakness of the
“ Joints and the Knees.

Of a Cachexy, or Ill Habit.

1166. By a *Cachexy* is generally understood that Disposition of the Body, which depraves its Nourishment through the whole Body at the same time.

1167. And consequently acknowledges for its Cause, either any Depravation of the Nature of the nourishing Liquid, or a Defect of the Vessels receiving them, or a Defect of that Faculty which is to apply them to the Extremities of the said Vessels.

1168. The Depravation of the Liquids ariseth,
1. From all Things taken inwardly, which are not capable of being made like unto the last Particles which they are design'd to restore by the Power which doth execute that Alteration in us; such are Aliments of mealy Matters, Pease, or such as are coarse, fibrous, fat, sharp, watry, and tough. (69.) Bodies that cannot be digested at all, as Turf, Cynders, Chalk, Sand, Tobacco-Pipes, Lime, &c. 2. From a Defect of animal Motion in lazy, idle People, and such as sleep too much. 3. From the very Vitiation of the Organs, by too great a Weakness, (41. to 44.) or too much Strength (50. 92, &c.) or a Defect of the Liquids themselves, not easily to be amended (60. 69. 76. 106, 107. 406:) This may be occasion'd by many; as all too great Secretions of whatsoever Nature; Vomitings, any sort of Loosness, Bloody Flux, all Hæmorrhages, a

Schirrous Defect of a particular Bowel, &c. Or the Retention of any Humour which ought to have been secreted.

1169. And it is manifest, that these Causes, once præ-existing, do act either by lessening the Solids, or embarrassing them with Liquids incapable of passing freely: Whence a twofold Effect of this very remarkable Distemper, *viz.* a Consumption, or a Leucophlegmatia, and a general Dropsie of the Muscles in the Surface of the Body call'd Anasarca.

1170. And several sorts of Diseases will be produced as Effects of a Cachexy according to the different Colour, Bulk, Tenacity, Sharpness and Fluidity of the engaged Liquids, *viz.* a Whiteness, Paleness, Yellowness, Lividness, Redness, Greenness, Blackness or tawny Colour of the Skin; a Heaviness; a Swelling under the Eyes and of the thinnest Parts; a bloating and watry Swellings of the Parts remote from the Heart; a Palpitation of the Heart and Arteries, much increased upon the least Motion; crude and thin Urine; spontaneous Sweats entirely watry; and lastly, a Leanness; or a Leucophlegmatia and a Dopsie.

1171. A general Defect of the Vessels, which are to receive and transmit laudable nutritious Juices, can scarce be supposed or imagined; yet may their too great Contractility and Laxness, and the Defects thence following, be admitted for Causes: of which has been treated from (24. to 58.)

1172. The universal Nutrition is interrupted by a Defect of the Power which applies Nourishment,

rishment, if the circulating Force be too languid or too violent. (92. to 107.)

1173. So that the Diagnostic of the Disease is pretty easy, and the Prognostic is made out from the Consideration of the Cause, Duration, Effects, and Degrees of the Disease.

1174. And it doth even appear, that the Cure doth always require, 1. Sometimes a Softning of the too great Sharpness and moderate Thickning of the too great Fluidity. 2. A Dissolution and Fluxility of what is too tough or sticking. But as these two may proceed from so many Causes (1168, 1169, 1170.) it will be above all things necessary to alter and diversify the Medicines and Method of applying them according to the variety of those Causes.

1175. Care ought chiefly to be taken, that the Patient's Diet be of such as are most like unto the healthy Juices, easily passing, contrary to the peculiar Cause of the Disease, and most agreeable and grateful to him.

1176. Then, that the same may be very well digested, Sauces, Wine, Exercise, and convenient Air ought to be called in as Auxiliaries.

1177. And Care ought to be taken that the Organs of the first Concoctions may also be well dispos'd, with gentle Digestives, or a Vomit, or a Purge, or such Medicines as do strengthen their Tone; such is "*Decoctum amarum cum, vel sine, purgantibus; Elixir proprietatis Parac. Tinctura Sassafras, Martis Mysichti,* and the like.

1178. After

1178. And after the Passages are somewhat loosen'd by the Use of those, and the morbid Matter shall be something attenuated, then you ought to insist on attenuating, diuretic, or sudorific Medicines.

1179. Lastly, use Chalybeats, Alcalies, Saponaceous Medicines, together with the Exercises of Running, Riding, Frictions and Bathing.

1180. And all these may be chosen from many, and prepared many ways, and applied according to the known proximate Cause.

1181. But when a Consumption or a Wasting from this ill Habit of Body is already occasioned by too great an Acrimony; the Physician ought to inquire into the peculiar Kind of Acrimony, if possible, 1. By finding out the Cause of the Cachexy, (1168.) 2. The Nature of the Disease, the particular Constitution of the Patient. 3. The Symptoms. 4. And Nature of Excrements.

1182. When those are known, they are to be corrected by their Opposites. See (1166)

Of the Empyema.

1183. Whenever there is a Collection of Pus between the Lungs and the Pleura in the Cavity of the Chest, it's call'd an *Empyema*.

1184. Which always supposes the breaking of a purulent Vomica, whose Pus is fallen and receiv'd into the Thorax.

1185. Such are the Vomicæ, 1. Of the Lungs from their Inflammation (820. 867.) from

from a spitting of Blood, and from a matter unfit to flow impacted therein. 2. Of the Pleura, from an Inflammation of the same (875.) from a slight Wound given from without, closed on its Outside too soon, and breaking inwardly, (298.) from a Bruise of the same, or a concealed Rupture, turning into an Imposthummation (324.) 3. Of the Diaphragm inflamed, suppurated and broke on its superior Part towards the Chest (907, 910.) 4. Of the Mediaastinum affected after the same Manner (877.) As also lastly, 5. Of the Pericardium itself. (877.)

1186. It is known to be coming, 1. From the Inflammation of those five (Parts 1185.) not being quite removed by any Coction, Revulsion, Crisis, or Medicines; but ending with uncertain Shiverings, a little Fever troublesome at Night, an uncertain Heat, a Heaviness instead of Pain, Difficulty of Breathing, loss of Appetite and a Drought (See 833, 892, 910.)

1187. It's known to be already present, 1. From its being the twentieth Day since the Inflammation began, without a Purgation of the same. 2. From the Signs of a Vomica in any of the said (1185.) Parts disappearing. 3. From a new Pain, Cough, Difficulty of Breathing and Spitting, breaking out and soon again vanishing. 4. From a dry Cough, a Heaviness upon the Diaphragm, the Possibility of lying upon one Side only; a Noise and Rattling of the Pus upon motion; a slow Fever, red Cheeks, hollow Eyes; a Heat
at

at the Fingers Ends, Crookedness of the Nails,
and the Swelling of the Belly.

1188. The Effects of this Evil are. 1. A continual Accumulation of Pus out of the broken Ulcer, which was neither heal'd nor cleans'd. 2. An Exacerbation, Putrefaction, Stench and Thinning of the same from its being detain'd in a close, hot, moist Place, and continually moved. 3. An Impediment in lifting up of the Diaphragm, in extending of the Lungs: Whence a Blowing, difficult and streight Breathing, a Fear of being choak'd upon lying down, an Impossibility of lying upon the sound Side, a continual dry Cough, and an Anxiety or Anguish. 4. A Maceration, Corrosion and Consumption of the Lungs, Pleura, Diaphragm, Pericardium, and of the Heart it self into a destructive Liquid; whence a small hectic Fever with a quick small Pulse, a Redness in the Cheeks, continual Drought, Want of Appetite, great Weakness and Swoonings. 5. Hence a Disability and Unfitness of all the Liquids for Nutrition, Circulation, Secretion, and Excretion; whence a Consumption, Atrophy, Resolution of the Fibres, Putrefaction of the Liquids, and their Rejection even through the corroded Lungs, or a mortal fanious Belly-flux, with night-consuming Sweats after Sleep, Pimples in the Face, crooked Nails, a shining Yellownes, and an hippocratic dying Countenace and Visage.

1189. The Cure of this is different according to the Variety of the Cause, and the Degrees and State of the Disease.

1190. For, 1. As soon as it is known that there is a Vomica in the Lungs, Pleura, Diaphragm, Mediastium and Pericardium, which is discovered by its proper Signs in (834, 835, 893. 910.) Endeavours ought to be used forthwith to break the same, and to make the Discharge outwardly; which may be accomplished by Burning, Launcing, Medicines, or sufficient and proper Motion.

1191. 2. When it is certain, that the same is already broke (302, 836. N°. 4, 5, 894. 910.) then ought the Pus to be discharged from the place it fell upon. α. By the Mouth, if Nature doth shew that way. β. By Urine, if in the same there appear Signs of a Discharge of Pus in some promising Quantity. γ. By an Opening of the Chest made with a proper Instrument on the affected Side, between the 5. and 6. or the 4. and 5th Ribs, reckoning from below, and tapping the Pus slowly and by Intervals, and cleansing the Cavity of the Thorax sometimes with honey'd Water, and then closing the Wound with the Prudence recommended in (303.) δ. Giving at the same time inwardly vulnerary, cleansing Decoctions, and such as resist Putrefaction in pretty large Quantities.

1192. If the Pus be white, smooth, equal, void of Stench, not colouring the Probe at its taking out; if the Patient be free from Fever, Drought,

Drought, Loosness, has an Appetite and digests kindly, is healthful in all other respects, and the Air be hindred as much as possible to enter into the Thorax; there are Hopes that the Patient may recover entirely. (304, 305.)

1193. But if the Pus be tawny, ichorous, stringy, foetid, colouring the Probe with a fiery Colour, bloody, coming out all at once with Violence; the Patient is in a very great Danger, for he'll either die instantly, or be soon consumed.

1194. If the Mediastium has been eat through, and that the Thorax be open'd, the Patient is generally instantly suffocated; " by " the Air pressing upon all the Lungs at once " with a greater Force, than that which comes " in at the Windpipe can overpoise.

1195. If the Empyema is of an old standing, the Strength decay'd, the Hair falls off, and a colliquative or melting Loosness presses hard, the Body wears away; if then the Operation of the Empyema be made, it only serves to hasten Death.

Of Consumptions from ulcerated Lungs.

1196. If an Ulcer has so far eat through, or into the Substance of the Lungs, that the whole habit of the Body be thereby consumed; the Patient is said to be in a Consumption of the Lungs.

1197. The Origin of which Ulcer is deduced from any Cause which is able to stop the Blood in the Lungs, so as to be changed unavoidably into a purulent Matter.

1198. These

1198. These Causes may be reduced, 1. To that very *Constitution* of the Body which occasions the Patient first to spit Blood, and changes the Wounds of the Lungs into an Ulcer: This Constitution we find α . In a Tenderness of the Arterial Vessels, and the Impulse of the Blood when acrimonious any way; It is known by seeing the Make of those slender and tender Vessels, and of the whole Person; by the Length of the Neck; a flat and narrow Chest; depressed, low Shoulders; The Blood being very florid, thin, loose, sharp, and hot; a very white, fair Complexion with rosie Cheeks; a shining Skin; a gay temper and too forward Acuteness of Wit and Understanding β . In that Weakness of the Bowels, which occasions those Aliments, which of their Nature are too tough, to create Obstructions, Putrefactions, and to grow acrimonious, and by these ill Qualities to ulcerate the destroy'd Vessels after a preceding spitting of Blood: It is known by a small Fever, a dry Cough, an encreased Heat, an encreased Redness of the Lips, Mouth and Cheeks, and apparent about the time that the new Chyle doth enter into the Blood, by a Propensity to Sweats upon sleeping, a Weakness, and great panting upon the least Motion. γ . At that Age when the Vessels having reach'd to their full Growth, do resist a farther Endeavour of the Liquids to lengthen the same, while the Blood is increased in quantity, sharpness, strength of Motion, and consequently between the Years of 16. and 36. and earlier in Girls than in Boys, because their arriving sooner to their full Growth.

δ . In

δ. In hereditary Dispositions: Hereto refer what has been said in 24. 26. 29. 38. to 41. 44. 45. 48. 60. 61. 64. 69. 72. 82. 84. 86. 100. 106.) for those compared with the Circumstances just mentioned (1198. α. β. γ. δ.) do explain, define and foretel, the Nature, Causes, and Effects of Blood-spitting; and those Circumstances of that Effect, (*viz.* spitting of Blood) are hasten'd,

1. By the Interception of all the usual Excretions, chiefly of Blood; such as the Piles, Monthly Courses, Cleansings, bleeding at the Nose, Omission of Bleeding at usual times, chiefly in plethoric People, and such as have lost some Limb.
2. By any great Force upon the Lungs, either in Coughing, Hollowing, Singing, Running, great and forcible straining of the Body, violent Passion of Anger, or any Wound occasion'd by any sort of Instrument or Weapon.
3. By a Diet of salt, sharp or aromatic Meats; Drink of the like Nature, way of living or any other Disease, whence the Quantity, Sharpness, Quickness, Rarefaction or Heat of the Blood is augmented; and this is the Reason why this Symptom is so frequent in acute Fevers, the Plague, Small Pox, and Scurvy.

1199. It arises from all those (1198.) Causes with a slight Pain, a moderate Heat, and a narrow Pressure of the Chest; The Blood issuing out is generally florid, of a fine Scarlet, frothy, with a Cough, a noise and rattling in the Lungs, mix'd with some small Fibres, Membranes, arterial, venous or bronchial Vessels; with a soft,
 small,

small, waving Pulse; a Panting; and a salt Taste perceived before the Spitting of it up.

1200. It is cured, 1. With a large Bleeding every third Day, repeated to four times, or till the inflammatory Crust has entirely disappear'd. 2. With cooling, thickning, stiptic, softning Medicines, long continued and mixed now and then with gentle Balsamics. 3. Directing the six Non-naturals, so as to make 'em contrary to the Causes (of 1198.) : Chiefly with a continued, very temperate, and soft way of Living and Dieting, to which a Milk Diet doth peculiarly belong. 4. Correcting the Specific Nature of the Cause or peculiar Disease, which has occasion'd it.

1201. When it has once happen'd and has been suppress'd by those means, the Patient ought to be let Blood every six Months for some Years together, yet lessening the Quantity at each time, that it may be left off almost insensibly at last.

1202. But if, because of the Greatness of the Evil (of 1198.) or of Styptics untimely applied, or neglect of that true Method proposed (in 1200) there doth arise a Shortness of Breath still increasing after the spitting of Blood, uncertain Shiverings; a Heat and Redness of the Cheeks, a small dry Cough, a Hectic Fever, a greater Drought, a Weakness, a Sense of Heaviness in the Chest; It denotes that the Wound, out of which Blood was spit, has already begun to change the Matter about its Lips, and the Blood dried under a Crust into Pus, and that this Collection is passing into a conceal'd Bag, which broke, doth terminate into a manifest Ulcer of the Lungs.

1203. 2°. This Collection of Matter doth also besides the Causes mention'd (in 1198.) arise from any Inflammation of the Lungs terminated into an Imposthume (832, to 843. 867.) and is known from the Signs there laid down.

1204, 3°. And it is even possible that an Emphyema (1135.) shou'd gnaw, melt and consume the Lungs, so that the same Disease follows, as if it had been occasion'd by an Ulcer first bred in their Substance (1188. N°. 4.) And that may be known from the Signs there mention'd.

1205. Whence it is evident, which are the Signs denoting an Ulcer of the Lungs, even a conceal'd one, and how many Causes there be of the same, and how many sorts, and consequently how many different kinds of Consumptions.

1206. Now the Effects of an Ulcer of the Lungs already made, but yet conceal'd by the Name of Vomica, are pretty much such as follow: The Sharpness, Quantity, Putrefaction of the Pus increase daily; The Membranes, which do contain the same, are daily dilated, eaten, and made thinner; The Blood and bronchial Vessels are converted into Pus; The whole Substance of the Lungs or one of its Lobes is consumed into Pus also; A continual dry Cough, or such a one that continually rubs off and forces up Spittle, with its shaking attends the Patient; all the Blood running upon the Ulcer is turn'd into Pus, the Vomica gains ground every Day into the Substance of the Lungs, and that breaks at last into the Pipes of the Larynx; Sometimes the Patient is choak'd at once with the breaking and

and issuing forth of the Pus, or voids the same daily in great quantities with a Cough, and it generally sinks and runs together, when spit out in a Basin with Water: It is sweet, fat, fœtid, white, red, yellow, livid, ash-colour'd, stringy, and when thrown into the Fire it smells of roastmeat. Then a breaking and an emptying of the Vomica into the Cavity of the Chest; whence Breathing is render'd very difficult, and all the Symptoms (1188. N^o. 4.) of an Empyema do appear. Then is Breathing worst of all; all the Blood and Chyle is converted into Pus; The Preparation of the nourishing Juice (usually perform'd in the Lungs) is destroy'd, almost all the Solids do entirely consume; a Hectic Fever with a small and languid Pulse, a troublesome sharp Heat in the upper Parts, glowing Checks, an Hippocratic Face, an inexpressible Anguish, chiefly towards Evening, a great Drought, large overflowing Sweats in the Night, red Pustules in the Face, and about the Neck and Breast, an œdematos swelling of the Hand of the affected Side, a great Weakness, a Hoarseness, a falling of the Hair, an Itching all over, with watry Pustules; a Loosness with yellow, fœtid, purulent, cadaverous Matter, pressing hard with almost a continual Motion to go to Stool, and spending the Spirits greatly; a Suppression of Spittle and Death. Whence these Rules are easily drawn.

1207. 1. An Hereditary Consumption is the worst Sort of all, nor to be cured but by preventing the spitting of Blood by the same Method as it is cured in others.

2. A Consumption occasion'd by spitting of Blood from an external Cause without any previous inward Defect, is the lightest, if all Circumstances be alike.
3. A Consumption (of N°. 2.) in which the Vomica is suddenly broke, when the expectorated Pus is white, well digested, even, easily brought up, answering in quantity the Large-ness of the Ulcer, without Drought, with an Appetite, good Digestion, Secretion, and Excretion, is difficultly but yet curable.
4. A Consumption of the Lungs from an Em-pyema is incurable.
5. Heavy, solid, stinking, sweet Spittle, with the last Signs of (1206.) ought to extinguish all Hopes of a Cure.

1208. When there is already a Vomica form'd in the Lungs, the Intention of the Physician ought to be, the Ripening of it as soon as possible, and then to break it: Which is executed by a Milk Diet, riding on Horseback, luke-warm Steams, and expectorating Medicines: When it broke, then it is requisite,

1. To fence the Blood against the purulent Contagion.
2. To empty the Ulcer of its Pus forthwith, and to cleanse and heal up the Lips of the same.
3. To allow such Nourishment as requireth the least Concoction, that they may not only flow through, but also be changed by the remaining Power of the Lungs; But yet solid enough to be capable of nourishing the Body, and un-qualified to make more and new Pus.

1209. The first Intention is satisfied with the help of Medicines of a gentle and pleasant Acidity, Saltneſſ, of vulnerary Herbs, gentle Balsamicks, given in all Shapes, in great Quantities, and continued long.

1210. The Second by liquid, and diuretic Medicines, that promote Coughing, whether internal or external; by Riding and Country Air; then by the Help of balsamic Cleansers both internal and external; and healing up at laſt by virtue of consolidating Paregorics.

1211. To the third belong Ptifanes, Broths, and all things made of Milk.

1212. As to the palliative cure of this Disease it regards chiefly the Cough, Oppreſſions, and Loofneſſ.

1213. Which may be eafed with a proper Diet (1211.) Opiates adminiſtered prudently, and warm Liquids.

Of other Sorts of Consumptions.

1213. As Consumptions are mostly occasion'd by Ulcers in the Lungs, there are ſome alſo that owe their Birth to Ulcers of the Liver, Spleen, Pancreas, Mesentery, Kidneys, Womb, Bladder, &c. The Knowledge, Prognostic, Effects, Cure and Palliation are eaſily drawn from the diſtinguiſhing Marks of each particular Bowel, of which no good Physician ought to be ignorant.

Of a Dropſy.

1215. When watry Serum is ſhed out of its Veffels, and received into Cavities, or when ſtag-

nating somewhere it distends its Vessels too much, it is called *a Dropſy*.

1216. Which may consequently take place wherever there are such serous Vessels, that is, in the whole Habit of the Body, and in each particular Part thereof.

1217. Hence the *Hydrocephalus*, from a gathering of Waters between the very external Integuments; between them and the Cranium; between the Cranium and the Meninges; between the two Meninges and the Duplicatures of them; between them and the Brain; between the Foldings of the Brain, in the Cavities or Ventricles of the same; and yet the Patient may not die suddenly.

1218. It is easily known; the last Kind is incurable, the others may be cured, by burning slightly, trepanning, puncturing prudently and slowly, using at the same time inwardly such Medicines as purge the Waters, and afterwards do strengthen both the Blood and Vessels; or some may be dissipated by applying externally such warm Cataplasms as are able to discuss.

1219. In the *Dropſy of the Chest*, which is apt to collect Lympha from several parts, we may observe almost the same Signs as those of an Empyema; but the Knowledge of the antecedent Cause doth shew the difference of the Disease and how to distinguish between them. This Dropſy is cured by the opening of the Chest, using at the same time those Things which are contrary to its Cause, and are able to remove it.

1220. The

1220. The Lungs also have been experienced to have fallen into this Disease, by admitting either watry Bladders, or even a dropical Bag, by the accumulating, and shedding or receiving Water in their larger Sinusses; which Disease is certainly difficult to know and to cure, unless some other present Signs do by chance put the Physician upon administering Medicines proper for the Cure of this Dropsy; " Which is certainly but a Chance, because its Symptoms are so like those of Asthmas from other Causes.

1221. And even the Forepart of the Aspera Arteria which is in sight, collecting the Lympha by the help of any Power apt to stagnate the same, doth often shew us a sort of *Bronchocele*, (a watry swelling in the Throat like a Rupture;) which, as easily known, is generally cured by a Puncture made therein, with discussing and diverting Medicines; if observed as Authors do mention. " NB. Our Author seems to doubt of the Existence of such Swellings, because he never was farther than his native Country *Holland*: But he would have seen them very common in *Switzerland*, and in many other Countries, where People drink Waters that have a great mixture of melted Snow amongst them; which are generally cured by dissipating, drying Medicines, and drinking of Wine.

1222. The Follicle of every Clandule may be invaded with the like Distemper, which is there curable after the same Method.

1223. A very remarkable sort of *Dropsy* doth also occupy frequently the *Ovaria in Women*, chiefly the Barren and advanced in Years; it is but difficultly distinguish'd from an *Ascites*, and hardly ever without an Anatomical Inspection: It is never cured, but often changes into an *Ascites*.

1224. And even in the very *Cavity of the Womb*, by its internal Orifice shutting very close, is often so much Water collected, that the whole Belly is as much swell'd as in a true *Ascites*; which Disease is also difficultly known, because of several doubtful Signs, which seem to indicate the Patient to be with Child: It is to be cured by relaxing the Mouth of the Womb with Fomentations, Steams and such Medicines as operate mostly upon the Womb.

1225. Whenever this same *Lympha* doth stagnate in the whole Habit of the subcutaneous Fat, or is there deposited, that sort of *Dropsy* ariseth call'd *Anasarca*, *Upasarca*, and *Leuco-phlegmatica*, which extends itself also about the Abdomen and Scrotum.

1226. While that same Water is collected within the Duplicature of the Peritoneum, in the Cavity of the Abdomen between the Peritoneum and the Bowels of the Abdomen, or in the dilated Cavities of Glands or Vessels contain'd in the Abdomen, it is call'd an *Ascites*, and also a *Tympany*, if it be puffed up from rarified Steams, Water, Pus, Ichor, and Air, which are here lock'd up, kept hot, and thence putrefy.

1227. The *Dropsy* of the Testicles or *Hydrocele* is, 1. That of the Scrotum; belongs to (1225.) Is

(1225.) Is known by Feeling, by a manifest Transparency, and the Pitting of the same after Pressure. 2. That of a Bag from the Production of the Peritoneum, bred in a true Rupture, happens in a violent Ascites; (1226.) it is known from an Ascites or Tympany having preceded; from the vanishing of the Swelling upon Pressure, lying upon the Back with the Buttocks raised higher than the Head, and voiding of Waters out of the Abdomen; often from a sudden Increase and Decrease of the same without any apparent Cause; from the Figure of the Tumour not unlike a Gut-pudding from the Scrotum up through the Groin. 3. Of the peculiar Sheath and outward Membrane of the Testicle: It happens, if the Humour there separated is not resumed again by its proper Vessels, but stagnates, accumulates, and often extends its Bladder to an immense Bulk; or, if the same be there collected, from the breaking or Obstruction of the said Vessels, the Inflammation, Suppuration or ichorous Collection do often appear like this sort of Dropsy. It is known from the Tumor not being elastic, not giving way, but hard, and produced slowly; from the Absence of the Signs of the first and second Kind of *Hydrocele*; from the round, or at least oval Figure of the Tumor; from a manifest Transparency, if, upon bending the Scrotum all round, the Bag of collected Lympha held to a Candle is seen to be clear and transparent like an Egg: But whether besides these there be also such a Tumor

mour between the Tunica Nervea and the very Substance of the Testicle, or even in its very Substance, is not so certainly determined, is hardly distinguishable from the preceding Kind, and is perhaps not to be cured but by Castration. All these come under the common Denomination of an *Hydrocele*.

1228. It has been observed, that all these Diseases are produced by all Causes, that are able, 1. To restrain the serious Liquid, so that it cannot return into and through the Veins, but is forced to stagnate in the extended Vessels.

2. To break the Vessels thus as to be shed and spill'd between the Membranes. 3. Or to obstruct the Vessels, which return the same from the Cavities so greatly, and move the Liquids already deposited in the Cavities so little, that the same are neither exhaled nor reforbed by the Veins.

1229. Which Causes have been observed chiefly to be an hereditary Disposition common to the whole Family more or less: Too much and sudden drinking of cold Water not brought away or dissipated either by Vomiting, Stools, Sweats, or Urine, promoted by Heat, or proper and sufficient Motion: Acute Diseases, chiefly the most ardent Fevers either with or without an unquenchable Thirst, tho' never so much eas'd with Plenty of Liquor: A Bloody Flux of a long Continuance, proceeding from the Spleen: All obstinate Obstructions of the Bowels, as a Schirrus of the Liver, Spleen, Pancreas, Mesentery, Kidneys, Womb

Womb and Intestines: A Jaundice: A violent and long continued quartan Ague: A Lientery: A Diarrhoea or long bloody Flux: Cœliack Passion: “ (in which the Aliments run thro’ very little altered, and without supplying the Blood with any Part of their nourishing Parts.) An Empyema: A Consumption, and the Gout: All too large Evacuations, and chiefly those of arterial Blood: The drinking of sharp and strong fermented Liquors: The dieting and living upon tough and hard to be digested Food. Large and many watry Bladders hanging in the Cavity of the Abdomen, and many more like Causes, as Melancholy, Scurvy, &c.

1230. The Effects of this Disease and its Progress are pretty near as follows: The Feet swell chiefly towards Night, this Tumour increaseth gradually both in Bulk and Limits: Then doth the Abdomen swell and grow bigger daily; in a Tympany the same will sound when beat upon, there is a Noise of floating Water in the Ascites, from the Water being let loose in the Cavity of the Abdomen; but it deceives in that sort of Ascites where the Water is yet contained in some Bladders and Bags: Then comes on Difficulty of breathing, Drought, a Heaviness, Sluggishness, Costiveness, spare Urine, a slow Fever, Privation of all Sweats, a Leanness which is greater in Proportion, as the Swelling is grown: Then you shall see Waters gathering in the Thighs, Scrotum, and between the Skin of the Abdomen; watry Bladders, an Acrimony of the stagnating Water,

Water, putrefied by its tarrying in a hot and close Place; Ulcers, Gangrenes, Bleedings at the Nose, a kind of Rupture or a Protuberance of the Navel, a Sphacele of the Bowels, and then Death.

1231. The Cure of a Dropfy therefore requireth, 1. To procure a free Flux to the Lympha, whether it be Water, biliary, ichorous, or bloody Serum. 2. To draw out the Waters that are already extravasated and fallen loose into the Cavities. 3. To remove the Defects of the debilitated Bowels, whether those have been the Cause or the Effects of the Dropfy.

1232. A free Flux is procured to the Lympha by removing the Causes which hindred the same. Which are, 1. The vital Strength not sufficient to make that circulate duly. 2. The Compression, Disruption and Obstruction of the Vessels. 3. The too great Tenacity of the Liquids.

1233. To the first (1232.) do contribute all things call'd Cordials that are strengthning and stimulating; which are made up, unless there be a great Drought attending, of warm Aromaticks, Salts and Oils, in the Shape of Electuaries, Mixtures, medicated Wines, medicated Beers, Pills, Decoctions, Syrrups and Lozenges, according to the Palate and Desire of the Patient, as much as the Nature and Composition of Medicines can bear, without losing any Part of its Virtue.

1234. But

1234. But if a troublesome Drought attends, and the Cause of the Disease be hot, and the same be also attended with a hot Fever, which often happens, then in the room of those just now commended (1232.) substitute those Cordials that are refreshing by their grateful Acidity, and are the gentlest Aromatics.

1235. In both (1233, 1234.) Cases are useful Frictions, Motion, and Heat.

1236. To the second Intention (of 1232.) diligent search must be made after the Cause that makes the Vessels narrower, that obstructs or breaks them, which must be removed, if possible, (1299.) or must be often amended with mineral Waters.

1237. The too great Toughness of the Liquid will be resolved in the hot and cold sort of Dropfy (1233, 1234.) 1. By those Remedies there mentioned. 2. By alcaline Salts chiefly, not only volatil, but more effectually by fixed ones. 3. By preparations of Mercury and Antimony, and others used in venereal Cases, chiefly of the chymical Kind, if well prepared and applied with all the Sagacity that able Physicians should be Masters of.

1238. The Waters when fallen into the Cavities are fetch'd out thence, 1. By a Paracenthesis. 2. Making new Out-lets. 3. Urine. 4. Vomiting. 5. Purging by Stool. 6. Dissipating.

1239. If the Cause of the Dropfy of the Belly be recent, and come on suddenly from an external Cause, the Patient young and in full.

full Vigour, the Bowels sound, nor ill affected with any other Disease, the Waters not yet putrefied nor stagnated long in the Place, *Tapping* must be resolved on immediately.

1240. Which undertake three Inches below the Navel, and the same Distance from the *Linea Alba*, which Measure is understood to be taken as in an healthy Body free from a dropsical Swelling, for which the Operator must allow in Proportion as it is farther from the natural Shape; it must be made on the side opposite to the original Seat of the Distemper, that is, if the Dropsy took its Rise from a Defect of the Liver, the Operation must be perform'd on the side of the Spleen, and so on the contrary, &c. The Puncture must be made with a proper Instrument, and a Tube to be introduc'd and taken out again; the Water must be tapp'd in a small Quantity at a time, twice a Day, spending at least fifteen Days in emptying the whole; and all the while those Remedies must be administred recommended (from 1233, to 1238.) or this may be perform'd after the modern way, by Napkins or Linen Cloth bound round the Abdomen, and compressing it as the Water is drawn out, and so hindering the pendulous loose Intestines and Vessels from fluctuating and rolling about within it when empty'd.

1241. If the Conditions of (1239.) are either not present, but on the contrary some opposite to those; then ought this Operation by no means to be allowed of, for it will only hasten Death,

and bring Blame and Reproach on the Operator, or the Physician who advised it.

1242. Emissaries or Iffues and Setons made with a red hot Iron, Caustics, Spanish Flies, Launcet or a Needle and coarse Thread, in a fleshy depending Part, have often been of great Advantage, chiefly if the Nature and Degree of the Illness permits to keep them open. "The late famous Surgeon, (*Cowper*) who differed with *Bidloo* on Account of the great *Theatrum Anatomicum*, both accusing each other of Plagiary, is said to have cured a great many dropical People in this case, by making an Incision betwixt the Toes: And I know a Servant of his late Excellency the *Portugal Envoy to the British Court*, who must have died of a Dropfy long ago, if the waters did not plentifully and constantly ouze out at a Hole, which providential Nature has made just by his great Toe, where he had formerly a deep rooted Corn.

1243. And as many Examples are mention'd of Dropfies cur'd by Diuretics, we ought also to try that Method, if Nature doth shew us the way, exhibiting urinary, fixed, compound, specific Salts, prepared from some Animals, Vitriol and some dissolved Metals; all which are said to be specific for the Kidneys.

1244. By vomiting are resolv'd all the tough Liquids, the obstructed Parts are shook, the stagnating Matters are drove out, whence they are of admirable use in this Disease. *NB.* " This must be understood to be useful in the Beginning

" Beginning before the Waters are yet let
 " lose into the Cavities, for then it more weak-
 " ens the Patient than it voids any of the ex-
 " travasated Waters.

1245. But they ought to be given strong,
 repeated often, and without any long Intervals
 between each: " Otherways you will open the
 " Passages and fetch out nothing; give there-
 " fore boldly ten Grains of Tartar Emetic at
 " least every other Day: *Sydenham* used to
 " give an Ounce and a half of *Infusio Croci
Metallorum* every Day for three Days toge-
 " ther.

1246. These very Vomits will at the same
 time purge by Stool, and work usefully two
 Ways, and even a third; for they generally
 free the Neck of the Bladder of its obstrucing
 Load, and make a Passage for Plenty of Urine.

1247. The Waters are purged off by Stool,
 if strong, quick, and often repeated Purges be
 given; " Let the same be liquid, as much as
 " possible, because they'll find their Way easier
 " to exert their stimulating Power on the Inte-
 " stines, whereas dry Purges may be buried as
 " it were in a tough slimy Matter, with which
 " they then abound. With our Author agree
 " *Sydenham* and *Lister*; but among the Anti-
 " ents *Celsus* was of Opinion, that the Physi-
 " cian ought first to begin with gentle Purges,
 " to measure the Belly daily, and to enlarge
 " the Dose gradually, if he finds it answer.

1248. The Waters may be *dissipated* by the
 Heat of a Fire or Stove, Oven, Sand, Sun,
 Salt

Salt, or Dung, which is increased as long as the Patient can bear, and till it throws him into a large Sweat, or a Diaphoresis. *NB.* "The famous *Dampier* in his Voyage round the World, tells of himself, that when a long continued unwholesome Air and Diet had brought a Dropfy upon him (I take it to be an *Anasarca*) and had been set on shore in the Isle of *Califurnia*, that he had buried himself (all but his Head) into Sand heated by the Sun-beams for about half an Hour, that he was carried thence to his Bed, cover'd with many Clothes, whence he fell into so profuse a Sweating, that from that time he began daily to mend, and was at last perfectly cured. This *Dampier* had probably read in some ancient Author; and how commonly it was used by them, may be seen in *Mercurialis* and others.

1249. It may be done besides with abstaining for a long while together from all manner of Drink, living upon Biscuit, with a little Salt, and now and then a spoonful of Mountain or Canary. The celebrated *Capivaccius* of *Padua* has left us the History of a Patient of his, who was cured by him, " Whom he affirms to have abstain'd from all Drink, for two whole Years together, and had taken no other Aliments but Biscuit. 'Tis probable that he had something allow'd him, or found out something that did delude his Drought: As *Lister* reports of a Woman, who was also cured of a Dropfy by the same Method, but had of her own accord ingeniously found out means to *fallere Sitim* with a mor-

" fel of Bread, which twice a Day she used to
 " dip in Brandy, keeping it in her Mouth, and
 " thereby keeping the Glands of the Mouth from
 " closing.

1250. The Third Intention (of 1231.) is an-
 swer'd chiefly by Chalybeat Wines, Steel in Sub-
 stance, Strengthners gently astringent given in a
 due Dose and Seafon; a dry Diet; generous
 old astringent Wines without Water; and all
 these help'd with Exercise.

1251. A Tympany is cured by the same Me-
 thod and Means, if it took its rise from rarified
 steams of extravasated and putrefied Humors, for
 then it is removed by the Removal of the Cause;
 But if it owed its birth to Air fall'n into Cavities
 through the Membranes of the putrefied Intel-
 tines, not able to return back, but rarefied more
 and more through the Heat of the Body, then
 do all things by the help of this very Air corrupt
 very soon, and the Evil from this Cause is ge-
 nerally incurable. So that a dry Dropfy is always
 reputed much more incurable than a moist one:
 The Paracenthesis has eased sometimes, but sel-
 dom cured; A Bandage next to that may be
 used to bind and ease the Belly.

1252. The first Sort of Hydrocele (1227.) is
 cured, if 1°. The Anasarca its Parent be cured
 first, (1231, to 1238.) 2°. By the Remedies (of
 1248.) 3°. By the most powerfully discussing,
 and at the same time strengthning Medicines, ap-
 ply'd to the very Scrotum, and put into a greater
 Motion by a constant external Heat. The fol-
 lowing Cataplasm is incomparable. & *Fol. Asar.
 Ellebor.*

Ellebor. nigr. Taba. ana ʒij. *Bryon. ras.* ʒij. *coque ex aqua vel fecibus Vini vel Cerevisiae fort. Admiscendo sub finem Galban. solut. ʒiss. Ol. Junip. ʒj. M. pro Cataplasmate.* But the second sort (1227.) will be best cured, 1. If the original Rupture is first well cured by a skillful Surgeon. 2. If the Matter of the Ascites be carried off and its Fountain drain'd. (1238, to 1252.) 3. Then pressing upon the Groin with convenient Machines, as in Ruptures with Bandages: But very seldom is a Dropfy, which has gone so far, entirely cured. The last sort (1227.) will be cured, 1. By giving strong Purges often repeated, and keeping to a drying Diet. 2. By the strongest Discutients and corroborating Applications. 3. By piercing into the Scrotum. 4. Applying Caustics, and causing the Part to digest well.

1253. Whence it is evident again, that in the Cure of Dropfies the greatest Difficulties arise more from the Nature of the Waters putrefied in the Places where they stagnate, than from its first Causes; and Reasons may be given why, when those putrefied Waters are tapp'd off, or otherways evacuated, those Parts that were floating in them do sooner gangrene than they would have done otherways; why upon letting out the Waters too suddenly out of the Chest or Abdomen, the Patient instantly dies, or at least faints away to a surprise: why dropfical People are commonly so droughty, and what this Thirst means; why acids are so beneficial in that Disease; ("I remember a young Lady at the Hague

" who was cured of a *Dropsie* by eating a great
 " Quantity of Cherries by the Advice of our Au-
 " thor. Why after strong and great Evacuations
 of the Waters, the Swelling of the Belly does
 not only remain, but even increase; and why
 this Swelling falls soon upon giving a sufficient
 Dose of *Laudanum*; why Bandages are so use-
 ful in this *Cafe*; and how far they are so.

" I cannot forbear mentioning here a *Dropsie*
 " of one Leg, which a Clergyman much afflicted
 " with the Stone, under my Care for both a-
 " bout six years ago, did labour under, partly ow-
 " ing its rise to the Scurvy, which he has con-
 " tracted in Sea Voyages, or in *Ireland*; but, I
 " believe, chiefly to the Obstruction of the Kid-
 " ney of the same Side with the dropical Leg:
 " He never felt any Nephritick Pain on t'other
 " Side till when he was seized with a most def-
 " perate Fit of the Stone lodged in that Ureter.
 " I have had the good Success to cure him of that
 " sort of *Dropfy*, but he has had since several
 " fits of the Stone, which will one time or other
 " be his Death.

Of the Gout.

1254. The Gout is a painful Illness chiefly seated in and about the Ligaments of the Bones of the Foot and its Joynts, invading mostly in the Spring and Autumn.

1155. Which when undisturb'd it doth run its own natural Stage, is usually the Companion of People past the middle Age, of the Male Sex, Men of acute and deep Sense, that exercise the same

same much, and protract their Studies late in the Night ; Such as live voluptuously and at Night drink great quantities of Wine or spirituous Liquors : Such as have been much addicted to Venery in their younger and unripe Years ; large, broad and full habited Men ; Such as are too much addicted to Acids, cool their sweaty Feet too suddenly ; sweat in wet Stockings or Shoes ; hence such as do hunt or ride much in cold Weather ; such as have it from their Parents, or lie much with Gouty People.

1256. The Season, Age, and other Circumstances which perform the part of Causes (1256.) and then the Phænomena, Beginning, Progress, Effect and Termination of this Disease being all together well weighed and comprehended, do demonstrate what Causes the Physician ought to form to himself to determine his Judgment in the Cure of this Disease.

1257. For before this long hidden and lurking Disease shews itself in its repeated Paroxysms, you may observe such People, whom it invades, to be afflicted with Crudities and Indigestions, Belchings, Heaviness, flatulent Sluggishness, Costiveness, the Interception of usual sweating of the Feet, and swelling of the Veins in the same.

1258. All Errors committed in the Non-naturals, whence Crudities are form'd, are apt to hasten and bring on the Fit when little expected ; so that immoderate Venery, Sitting up, Debau-chery, the Eating of Hogs-lard and the like ; over Fatigue, great Passions, the taking of a Purge only ; (when the gouty Matter is wan-

dring up and down, unsettled and disordering the whole Oeconomy, a warm brisk Purge will often fix it, even in such as never had a regular Fit before,) moist, cold, tempestuous Air and Weather, all these are Enemies to gouty People.

1259. The Place which it commonly first and regularly invades, is always the Foot, and chiefly those Parts of the same through which the Liquids flow the most difficultly ; as the Periosteum, Tendons, Nerves, Membranes, Ligaments ; such as are the remotest from the Heart, and the most press'd and pinch'd.

1260. When these Parts (1259.) are at length shut up by Obstructions, Tumors, or any Matter cramm'd up there, or that the Matter of the Gout by any Power whatever is thrown and dispersed into other places, it does lay hold also of some other parts, yet so, as to obseß the same Places and the same Parts ; that is, Periosteum, Tendons, &c. (1259.)

1261. The Patient immediately is sensible of a Stretching, Tearing, straitning Pain, gradually increasing and decreasing again, with a Moistness, Redness, Tumor ; ended with a Diaphoresis, keeping warm in Bed, an Itching, a Skinning ; or changing into a Chalky Substance which breaks the Vessels.

1262. From all which it appears, that the proximate Cause of this Disease is a vitiated Temper of the least and consequently nervous Vessels in the Body ; and also of the Liquid, which waters those nervous Parts.

1263. And moreover, that this Liquid here is defective by its Acrimony, and by its Over-toughness; and the solid Vessels by too great a Narrowness and Stiffness.

1264. Whence it shews its self in places the most distant from the Brain, as resisting Motion the most, because of their Solidity, Hardness, Exercise and the Weight incumbent upon them.

1265. Now the nearest Origin of this Defect (1162, 1163.) is from an Indigestion of the Bowels, which do not sufficiently attenuate or assimilate the Aliments into a Substance, fit to supply the Nerves with Juices proper for 'em, which do require a most elaborate Concoction.

1266. The Reason thereof may again be fetch'd from remote Causes (1255. 1258.)

1267. It supposes therefore that almost all the Functions of the several Concoctions are vitiated to produce this Disease (1265.) and that with a Defect scarce perceptible in the larger Vessels, or in their Liquids.

1268. The Cure therefore is impossible, unless wrought by such Medicines as are able to amend these Defects entirely. So that the Gout has hitherto been reputed incurable by Antients as well as Moderns, if you except a few Quacks and boasting Empirics in all Ages.

1269. That which is hereditary and breeds Chalk Stones is the most difficult of all to cure, or even to ease.

1270. From the same may be gather'd, that Bleeding doth not reach either the Matter, Seat or Cause of the Disease: Yet that the same may

be beneficial sometimes by chance causing a small Revulsion and lessening the urgent Powers mentioned in (1260.) " It is certainly right, and all agree with our Author, that Bleeding doth not reach the Matter, Seat, or Cause of the Gout; if understood of the Gout in that degree, when it has already produced either Chalk or such Stiffnesses in the Joints, as to deprive them of Motion: But the Assertion is too general, if understood of the Gout invading like an Inflammation, whose Fits are capable of being carried off so clean, as to leave the Patient betwixt the Fits entirely free, and his Joynts unhurt. In that case it is not by meer chance that *Bleeding* is beneficial, but it must unavoidably answer. Among the many Instances I cou'd relate, I obtain'd leave of the late Right Honourable Countess *Dowager of Lincoln* (when living) to mention her case here. Having the Honour to attend her Ladyship in several Fits of the Gout before, which used to continue pretty long; I proposed at last Bleeding to her Ladyship. The Reader may suppose, that the general Prejudice was against me: I had many reasons to put a great Value upon her Ladyship's Life and Health, and at the same time, to preserve my own Credit. I begg'd leave to consult several Physicians without naming her Ladyship, they most of them were against Bleeding, which I faithfully related; but having call'd in the late Sir *Samuel Garth*, who was a Physician of clear Notions, and too much a Gentleman to oppose a younger Physician out of meer Prejudice or Imperiousness;

he

"he highly approv'd of it: Her Ladyship was
"bled and took some Diaphoretics at Night, and
"the Fit went off in 24 Hours time. About a
"Month after, the Gout return'd in the same
"Manner, beginning in the Elbow, her Ladyship
"was bled again, the Event was the same; to
"make short, in less than ten Months, her Lady-
"ship, though 60 Years old, was bled five times
"upon the same Occasion, and with the like Suc-
"cess. Which had moreover so far subdued the
"Cause of the Gout, that since that time her La-
"dyship was very seldom afflicted with it, and the
"Fits abundantly less severe. It is true her La-
"dyship did not walk, but her Joints and Hipps
"were weaken'd before these Bleedings, and was
"partly owing to a great Indolence and Fearful-
"ness: The Blood was always like that of Pleu-
"ritic People: I cannot omit here, that a Gentle-
"woman that visits her Ladyship who declar'd
"much against Bleeding, and has for a long
"while endeavour'd to persuade her to take of a
"Diet drink, wherewith she attempts to cure the
"Gout, was lately obliged in a violent Fit of the
"Gout to be bled her self; but was bled on the
"very Part affected, which answer'd to her great
"Satisfaction, but wou'd have equally answer'd,
"if it had been done in the Arm or any other part
"in a large Quantity; she is likewise upwards of
"threescore. A Gentleman of the Army about
"five and thirty, has very lately, by my advice,
"experienc'd the same good effect of Bleeding in
"the Gout; and he is now dieting himself, with
"a View of preventing its Return if possible.

1271. And that Vomiting or Purging doth not effect so much here as is generally hoped for from 'em ; that they often raise a tumultuous Motion of the nervous Juice, withdraw and drain the most liquid Parts, and weaken the expelling Faculty. "All England has heard "of the wonderful Cures of the *Sea-Coal Heaver*, which he perform'd with strong "purging Draughts made up, as I have from "good Hands, of the common Pectoral De- "coction with a large Quantity of moun- "tain Flax. As the World, and even some "of the foremost in it, are always greedy of "those Novelties that promise a Cure, that "Man was for a while the only Person con- "sulted in the Gout, till at last it prov'd like "all other Medicines, to be proper only in some "Cases; which to discern required a better "Judgment, than that enterprising illiterate Fel- "low was Master of; as many People to their "Cost have experienc'd.

1272. That Sudorifics artfully administred are of greater use.

1273. And that nothing can be more prejudicial in this Disease, than to hinder the Matter of the Gout (1263.) now sufficiently stay'd, nor safely to be educ'ted any other way, not to be corrected, from flowing freely to its proper Places (1259, 1260.) and chiefly to such as are in Pain already, and are the least dangerous. For if the same be retain'd and hindred, it creates Apoplexies, Palsies, Deliria, Weaknes- ses, Sleepiness, Tremors, Convulsions all over,

if

if it has turn'd upon the Brain; Asthmas, Coughs, Suffocations, if upon the Lungs; a fierce and convulsive Pleurify, if upon the Intercostal Muscles or Pleura; Nauseating, Anguishes, Vomiting, Belching, Gripes, Contractions of the Bowels, if upon the Entrails of the Abdomen, and I do not know how many more wonderful and often suddenly mortal Diseases: which a Physician unacquainted with the first Occasion of them, shall in vain endeavour to cure with Means never so proper and effectual on all other Occasions; for they'll not give way, unless you bring on a new and smart Fit of the Gout, and fix the same in its proper and safe Part. This Damage and Mischief will be occasion'd by the imprudent Application of Narcotics, Coolers, Constringents and Thickners; or by the giving of any weakning, evacuating, revelling, or suffocating Remedy: hence is this often occasion'd by Bleeding, Purging, Vomiting, Plasters, the just named Cataplasms, and all Opiates; or also the spontaneous Weakness of decrepid old Age; or from all the external Parts being thus obstructed, dried, corrupted, destroy'd, that the morbific Matter can no longer pass through them: hence it is plain which sort of Gout, what sort of Symptoms in it, and why it doth at some times kill.

1274. Therefore the Cure, which the due Consideration of the Disease and Experience has commended, is effected, 1. By restoring the lost Vigour in the Bowels (1265.) 2. By carrying off the corrupted Liquid flowing yet in

in the Vessels, or stagnating in the Places assign'd in (1262, 1263.)

1275. To the first relates α . The Use of aromatick, bitter, antiscorbutick Plants, chiefly taken in Substance, bruised with a little Honey. β . The Use of lixivious fix'd Salts taken in small Doses, but long together and often. γ . Aliiments of the nourishing light Kind that are easily digested. δ . Great continued Exercise of Riding in a pure Country Air, and Frictions and Motions of the Parts often repeated. ε . Going to Bed early and lying long in the Morning.

1276. To the second (1274.) will be useful, 1. Any volatil Salt taken long but in small Quantities, in the Morning, some time before rising, with a large Draught of some softning Apozem, and thereby promoting a gentle breathing Sweat for about an Hour together. 2. Warm Frictions with dry Cloths. 3. Repeated Doses from time to time of such as purge Waters, acuated with Calomel or Mercurius Dulcis, and adding towards Night an opiate quieting Draught.

1277. With which Medicines and Method much good is done, even in the chalky and nodous Gout.

1278. To temperate the raging Pain of the Parts, it may be often allowed upon urgent Occasions to use internal Opiates, a great Quantity of Milk-whey, or such like thin cooling Drink, but drank warm; and externally some emollient Cataplasms or Fomentations, or Anodynes applied

applied hot, or even whipping the Part with Nettles, or anointing with terebinthinated Balsam of Sulphur, or burning with Moxa, " or a " Match or any actual Fire held at a Distance " till you raise a large Blister, which must be " cut to let out the Matter.

1279. Which otherways the Physician ought not to be too busy with, for thence he may reasonably fear to harden the Part sooner than wou'd otherways, and to deprive it of Motion, chiefly in People that have had the Gout some Years, and are aged.

1280. But that is to every one, and in every Sort and Degree of the Gout the greatest Remedy, what is the most opposite to the Cause it took its Rise from, first (1255, 1258.)

1281. But if the Signs be present of the Gout being turn'd inwards (1273.) you must without Delay attempt to drive it back again into the Joints: Therefore immediately apply large Blisters to the Thighs; to the Parts that used to ake; apply lukewarm, salt, aromatick Fomentations; let him be bid to walk hard, or be galopp'd stoutly in a Chaise; let him take a large Quantity of some sudorific aromatick Drink, or, if that will not do, of old Rhenish Wine; and when you have done this, and the Pains begin to invade the genuine Places, let him be put in a warm Bed and sweat. " I " have several times, in this Case, made a Pa- " tient of mine drink a Pint of burn'd Brandy " with success.

1282. All which whosoever doth rightly consider, he'll see the great and almost insuperable Difficulty in curing this Disease: and also the Reason why famous Physicians and Chymists have endeavour'd at finding its Cure in such things as renew the Blood and Juices entirely; why Milk, and which way it conduces to its Cure; whether a Specific Acrimony made and formed in the Blood be the Mother of the Gout; what reasons may be given for the Nodes, Tophes, and Chalk of the Gout; why a Fit of the Gout without any Tumor is the most painful; why it is easier upon the appearing of the Tumor; why the Pain of the Gout doth at last entirely cease; why, as long as the Pains are the most violent in the Fits, the same are shorter, and their Intervals longer; why when the Fits give over being fierce, the gouty People are hardly ever free from some Pain; whether there be any alcaline Absorber, which may extirpate the Gout wholly; why the Machine of *Sanctorius* be the best Director and Presager of what will happen and what must be done to gouty People.

"NB. I cannot help mentioning with due
 "Praise the two elaborate Treatises of Dr. *Musgrave of Exeter* upon the symptomatic and
 "spurious Gout; there we find Observations
 "carrying the Face of Truth, and adorn'd with
 "such excellent Prescriptions, as I have heard
 "our Author applaud when I was his Disciple.

Of Rheumatisms.

1283. There is a Disease ally'd to the Gout and Scurvy which is very common in England, and is call'd a *Rheumatism*.

1284. Which is preceded by a sanguine Constitution infected with some sharp Defect, manly Age, plentiful Living, a sudden cooling of a heated Body, Spring and Fall, Transpiration interrupted, an inflammatory Disposition, but shewing it self flower than in a Pleurisie. It begins with a continual Fever, creates a most terrible, tearing Pain, increasing cruelly upon the least Motion, long continued and fixed in one Place, obfessing the Joints of any Limbs, but most particularly troublesome to the Knees, Loins and Rump-bone, excruciating and invading sometimes the Brain, Lungs and Bowels, with a Tumor and Redness of the Place, and going off and returning again by Fits.

1285. If it lasts long and encreaseth, it often deprives the Joint, after most horrid Pains of its Motion, and makes it stiff by an *Ankylosis* scarce removeable by any Means whatever.

1286. Its Proximate Cause seems to be an Inflammation in the lymphatic Arteries of the Membranes which are about the Ligaments of the Joints, but not fierce enough to change it into an Imposthumation, It is cured by bleeding, cooling repeated Purges, always allay'd at Night with a Narcotic; gentle Bathing in warm Water, and antiphlogistic Fomentations to the Parts;

Parts; Blisters applied to the Part, and even actual Cauteries; by such Medicines as do dilute much, and soften at the same time; a thin spare Diet; Rest; the Warmth of a Bed, and towards the latter end by dry hot Frictions, together with the use of *Antiscorbutics*. " It is " a most common Method with several Physicians of note in *London*, whose Example I " have successfully followed after the first or " second Bleeding to give a Scruple of *Mercurius dulcis* over Night with an astringent " Narcotic, and to purge it off the next Morning briskly: It commonly vomits the Patient and gives him a large Stool even before " the taking of the Purge; but its Effect is " admirable in that it dissolves the Coagulum " in the Blood and lymphatic Vessels.

1287. If fixing it self in the Loins it deserves the Name of a *Rheumatic Lumbago*; if in the Thigh-bone it is call'd the *Sciatica*, or the Hip-Gout; it is cured by the same Method and Means, though not so easily.

1288. Hence appears why this Disease is so frequent and is seen in so many Shapes, and is very dangerous, if it invades the Brain or Lungs; and why it is difficult then to find out the same, and also that there is great Danger to be feared from the Use of too hot Medicines. And lastly, that the giving of Opiates too soon doth prolong the Disease. " N.B. Our Author had " forgot to treat of this Disease in his former " Editions, and truly I never heard him make " any mention of it in his Lectures during " two

two Years, I constantly attended him; nor
doth it seem to be a Disease much known,
or at least distinguished by any particular
Name in *Holland*, or most Places beyond
Sea, and consequently seems to be more pe-
culiar to this Isle. Consult therefore about
its Differences and proper Cure the never to be
forgotten Doctors, *Sydenham* and *Musgrave*.
The first distinguishes rightly betwixt the in-
flammatory and scorbutic Rheumatism; and
for the latter he advises an excellent Electuary
and Apozem to be continued some time; he
mentions that it chiefly invades Women,
who have had occasion to take large Quanti-
ties of the *Jesuit's Bark*, owning however at
the same time that this is the sole Mischief
which he knew done by that Medicine.





 O F T H E
 D I S E A S E S
 O F
 W O M E N a n d C H I L D R E N .

1289.  ESIDES all these different Sorts of acute and chronical Diseases, there are some proper to Virgins and Child bearing Women, to the latter when in Child-bed, and also to young Children.

1290. About the time that the Body of a Female is arrived to its full Growth, it uses to make a greater Quantity of Blood in a good Constitution than what the Vessels will contain, which is the reason why Part of it is let out at the Ends of the Arteries of the Womb; which Evacuation is called the monthly Courses or the *Menstrua*.

1291. If the Blood constituted as in (1290.) retains this Body, there follows a *Plethora*; a Sluggishness

Sluggishness, Heaviness, Paleness, a Pain in the Loins, and Groin; almost all the natural, vital, and animal Functions are depraved: which Effects are easily deduced from the too great Pressure of the Vessels, and the too great Quantity of Liquor, which is forced to stagnate, and is suffocated.

1292. From this Blood thus penn'd up, we shall often see most surprising Veins open'd for a Passage, mark'd down by the Observators for wonderful Evacuations of the Menstrua; for the same has been seen by Physicians to force its way through at the Eyes, Ears, Nostrils, Gums, salivary Glands, those of the Gullet, Intestines, Bladder, Breasts, the Skin, through particular Wounds and Ulcers.

1293. Or even all the Bowels will be much weaken'd thereby, and almost innumerable and quite different Diseases will arise, partly from the putrefied Liquids, and partly from the injur'd Vessels (106.)

1294. This Disease is known, 1. From the Age. 2. Full Growth. 3. A Plethora. 4. And the other Signs afterwards of the thence following Disease.

1295. It requires a different Method and Means according to the different Cause in each particular Subject.

1296. Among which there is sometimes a natural and sometimes an occasioned Defect of the Privy Parts, viz. their wanting an Orifice, which requires the Hand of a skilful Surgeon to make a free Passage there with a proper Instrument.

1297. But when occasion'd from the Stagnation of the Liquid, then ought it to be made to flow, 1. By fomenting and rubbing the Feet, Legs, and Thighs. 2. By opening a Vein in the Foot, and letting out a moderate quantity of Blood. 3. By giving Purges that will work upon the Womb. 4. By administering Emmenagogues. 5. By Plasters to the Belly, Fomentations, Liniments, Steams to the privy Parts, and received into the Vagina through a Funnel, and by Heat. 6. By strengthening the very Vessels weaken'd by the Plethora with Chalybeats and Astringents.

NB. " It is impossible to say any thing more to
 " the Purpose, and at the same time so conso-
 " nant with our Author's Opinion than what
 " we find in the excellent *Treatise of Dr. Freind*,
 " publish'd some Years since upon this very Sub-
 " ject, which is sufficiently meritorious to raise
 " its Author to the Pitch of those that have chose
 " Subjects seemingly more sublime, but consi-
 " derably less useful.

1298. Having removed by those means the Fountain of the Evil, all the Symptoms mentioned (in 1291, 1292, 1293.) usually disappear of course; or they are cured according to the nature of that particular Disease, which they seem the most ally'd to; which is easily perform'd from and by the Rules heretofore laid down.

The Diseases of Women with Child.

1299. When a Woman is with Child she is afflicted with several Diseases, owing their Birth to no other Cause than their Pregnancy.

1300. Whereof

1300. Whereof some do proceed from the menstrual Blood, being hindred to separate because of the Closeness of the Womb, and the Fœtus not being yet able to consume the Quantity convey'd thither for its Nourishment.

1301. Some from the very Bulk and Motion of the Fœtus, After-birth and Waters, which do exercise their Powers upon that very sensible Part.

1302. From the first (1300.) seem to depend the Nauseatings, Vomitings, the loss of Appetite, or the depraved and untoward Inclinations, fainting Fits, Vertigoes, violent Pains of the Stomach, of the Share-bone, the Groins, Kidneys, Breasts, and a Laziness, Heaviness, Difficulty of Breathing, and Miscarriages.

1303. All which therefore, as they proceed from one and the same Cause, may be cured by one Remedy, I mean letting of Blood in proportion to the time of being with Child, and of the Plethora.

1304. Taking a great Care not to do it in a wrong Place, Time, or Quantity. "Women
" young with Child ought not to be bled in the
" Foot, nor about the time that they should
" have had their Courses; nor above five, six, or
" at most eight Ounces at a time: After which
" it will be convenient to give them some gentle astringent Draught or Bolus.

1305. Then are also useful a thin Diet, a gentle Motion, and small Drink.

1306. Sometimes do also avail aromatic Cordials, together with the gentlest Anti-hysterics or some of the kindest Acids.

1307. From the Increase and Bulk of the Fœtus seem to proceed almost all the same Things as in (1302.) And besides the Difficulty in making Water and going to Stool, the Piles, Swellings of the Veins and Feet, and of the Pudenda; and the Women are then also from that very Reason prone to fall upon their Knees.

1308. Which may be help'd sometimes with Bleeding (1303.) or by changing the Posture of the Body for some time, (chiefly lying down) then also by supporting the Belly with Swaddles, and the like, or anointing those Parts with softning Liniments.

1309. But of all the Diseases incumbent to Women with Child, none is reputed so dangerous as the Flooding or *Fluor Uterinus*.

1310. Which mostly is occasion'd by the Separation of the Placenta from the Body of the Womb; while the Arteries are full of Blood that dilates them, and when the Womb it self is much extended, whence the Blood necessarily runs forth, and gushes out with a full Stream.

1311. This is known to be the Case when the Orifice of the Womb is loosen'd, the Blood runs swiftly with a great Stream very much weakning, fresh, or in Clots occasioning Pain.

1312. The Occasions thereof are violent Affections or Passions of the Mind, too violent Motions of the Body; the wrong Application

of Hystericks or unseasonable giving of such Medicines as provoke the Terms; or Blows received on the lower Part of the Abdomen.

1313. Its Remedies are, a quieting of the Body and Mind; the carrying of the Patient into a cool Air; bleeding in the Arm, Astringents, or Opiates.

1314. If by these you gain no Ground, the Child ought forthwith to be fetch'd away by a very skilful Hand, who knows how to place the Child in the easiest Position for a quick Delivery, and who at the same time pulling out the After-birth frees the Womb as soon as possible of all present Clots of Blood.

1315. Nor is it any matter at what time of Childbearing this happens, it being more reasonable to let that Child perish, who even otherwise has scarce any Chance for his Life, and to save the Mother, than to delay this Operation till they must both unavoidably be lost.

Of a difficult Labour.

1316. A difficult Labour happens either by the fault of the Mother or of the Child.

1317. The Mother is in fault, when she either wants Strength to thrust out the Child, or that her natural Parts are not duly form'd or prepared.

1318. When her Strength fails her, that ought to be repaired and increased with the help of Utterines, Cordials, and such as promote Sneezing.

1319. If the internal Neck of the Womb is either too narrow or hard, you must help that

with Liniments and Fomentations, that it may grow softer and glibber.

1320. If there be a Tumor in the Neck of the Womb or in the Vagina, which shuts up the Passage, that must be discussed, brought to Suppuration, or otherways removed by the Help of a skilful Surgeon.

1321. If the excoriated Lips of those Parts have grown together, they ought soon and before the time of Labour to be cut asunder and heal'd up again.

1322. If the Bones are too close and compact, and thereby render the Passage narrower, they must be softned with Liniments (1319.) and emollient Fomentations, and the Hand of the Midwife or Surgeon must part 'em and push 'em back a little at the time of the Labour. "Most
 " Virgins or Women that bring forth Children
 " at a pretty advanc'd Age, as any time after
 " Five and Thirty, (if their first) are generally
 " in this Case: What our Author proposes is
 " certainly right; *but using the Baths* must
 " prove of much greater Advantage, if done
 " with due Caution, and proper Directions;
 " and many Lives are daily sav'd at Bath by
 " that Method.

1323. 'Tis the fault of the Child, when that lies either dead and unmoveable, or so situate, that it shuts the Passage by that very Situation.

1324. 'Tis known to be dead, if it is unmoveable, if the Umbilical Arteries are felt to rest upon the Navel-String, and chiefly near the Body of the Child; If there comes from the
 Womb

Womb fœtid Matters; if the Mother feels a greater Dead-weight than a little while before; If she has sudden and continual Motions to go to Stool; If she faints away often; her Hairs stand on end; her Breath stinks much, and of a dead Corps; Looks of a livid Colour; If she is not deliver'd long after the Waters are all come away; If the Skin of the Child feels loose, and comes off easily; and his Bones are moveable and soft.

1325. As soon as the Fœtus is known to be dead, it ought to be drawn out for fear of communicating a Gangrene to the Mother, throwing her into fainting Fits, Convulsions and Death; and that ought to be done by the Feet if possible, because there is the best hold, which is material, when the Child doth not help it self.

1326. The Position of the Child is to be directed so as to make its Delivery easy, which is either with the Head foremost, or better yet with the Feet.

1327. This is done, 1. By putting the Mother in a convenient Posture. 2. By changing the Position of the Child, if there be Occasion, &c.
“ *NB.* This is only a general Idea of the Method of delivering Women. See all the Particulars at length in *Mauriceau’s*, or Dr. *Chamberlaine’s* excellent Treatises.

Of the Diseases incident to Women in Childbed.

1328. The Woman after Delivery is taken with Pains proceeding from the past Labour, the Confusion

tusion of the Parts, from Blood, another Fœtus, or part of the Burthen left behind.

1329. When there is another Fœtus, or part of the Afterbirth, or Clots of Blood, all ought forthwith to be taken out with the Hand.

1330. After-pains are eased with Opiates so prepared as to be contrary to Acids, cordial and diluting; and also with external anodyne Fomentations to the Parts.

1331. Women in Childbed are sometimes brought very low by too large Cleansings, proceeding from the Thinness of their Blood and Agitation, or most times from the Matter retain'd (1328.) in the Womb, which hinders its Closure.

1332. If it be from Matters retain'd, they must be brought or fetch'd away (1329.)

1333. If from Passions, too great Thinness or Motion of the Blood, you must have recourse to Barley Gruels, Jellies, Emulsions, Opiates, and Astringents.

1334. The Choice of which is directed by the Signs of the Disease, the Constitution of the Patient, and the Degrees of Danger.

1335. Whilst the serous milky Nourishment is making its way from the now contracted Vessels of the Womb towards the Breasts, there arises a small Fever; At whose coming, the Cleansings are sometimes entirely stopp'd, whence numberless Symptoms, and of the worst Nature, according as the Matter thereof is carried and thrown upon different Bowels; Hence Phrenesies, Pleurisies, Peripneumonies, Quinsies, Inflam-

Inflammations of the Diaphragm, Breasts; A worse of the Liver, Stomach, Caul, Mesentery, Spleen, Kidneys, and Intestines; Then bloody Fluxes, Colicks, Iliack Passions, Apoplexies, Palsies, and a great many more Evils.

1336. All these vanish in course if you remove the Cause (1335.)

1337. Hence are requisite here gentle Antacids to allay the acid Defect of the Serum; soft Diluents from Barley-broths, Gruels, Almond-milk, and Flesh-broths; The gentlest specifick Openers from the moderate Cordial hysterick Clasps; Then topical Aperitives, Glysters, Fomentations, Cataplasms, Plaisters, Liniments, Cupping-Glasses, Pessaries, and Suppositories.

1338. Letting of Blood ought not easily nor without the highest Necessity to be allowed of.

1339. Nor are the Symptoms to be removed by the same Means as if they belong'd to other acute Diseases of their own Kind.

1340. When the Milk is already carried into the Breasts, it often stagnates and curdles therein, whence an inflammatory Pain, an Impostume, a Schirrus, and lastly a Cancer.

1341. It is known by a Shivering, Cold and Heat returning by Fits, and succeeding each other, a Fever, and the Signs of a beginning Inflammation.

1342. It is cured 1. by gentle Alcalies and Terebenthaceous Powders. 2. The softest Diluters. 3. And by an external and timely Application of discussing Means.

1343. If it is tending already to an Imposthume, it ought to be ripen'd forthwith, to be open'd, cleans'd, and consolidated; of which see the Chirurgical Aphorisms in the beginning of our Treatise.

1344. The pain of the Nipples of the sucking Mother or Nurse, their Fissure or Inflammation is removed by the kindest Balsamics, or with the Application of spirituous nervous Medicines; such as is Hungary Water with some Oil to incorporate it.

1345. When the Milk abounds too much and is too thin, it may be temper'd with a soft dry Diet and reasonable Motion: When that is deficient it is supplied by a moist, soft nourishing Diet, Fomentations and Frictions of the Breasts, and by removing whatever doth appear to be the Cause of that Deficiency.

Of the Diseases of Children.

1346. To new born Children happen Diseases peculiar to them, 1. From the glutinous, caseous, and tough Filth, wherewith their Mouth, Gullet, Stomach, and Intestines are fill'd and obsefsed.

1347. From which Cause only arise Nauseatings, Vomitings, Gripes, Hiccoughs, and often Convulsions; which afterwards are the frequent Occasion of their not digesting their Ailments.

1348. It is easily cured by causing them to fast ten or twelve Hours, by giving them a small Quantity of good stomach Wine with some Honey,

ney, several times during this Abstinence from other Aliments, or by giving at the same time the most gentle purge imaginable.

1349. And in this Case do often wonderfully succeed external Applications of moderate Aromatick Oils and Spirits to the Stomach, which by corroborating its Fibres do expel all that Load of Slime and Phlegm.

1350. 2. They generally suffer much from a Retention of the alvine Fæces, which from their Blackness and Resemblance of the condensed Juice of Poppies are call'd *Meconium*, which should have been entirely expell'd soon after the Birth, but which the Child cannot effect because of his Weaknes, the Hardness of the Matter, its too great Quantity, and Dryness of the Intestines, not yet lubricated with a glandular Juice designed by Nature for that Purpose.

1351. So that from its Stay, and the Admission of Air, there follows an Acrimony, Sharpnes, Putrefaction and Resolution into Vapours, and consequently griping Pains, Convulsions, Nauseatings, Vomitings, Hiccoughs, Coughs, Sneezings, Cryings, Weepings, Wakefulness, Frights, Fevers, Wastings and Death.

1352. The Defect of the expelling Quality is remedied with a gentle stimulating Purge, a Suppository made of Honey, and a very agreeable and softning Cordial.

1353. The Hardness of the Matter is corrected by giving a Draught of fresh Milk-whey with a little Honey dissolved in it, a Clyster of Milk-whey and Castle-soap or Honey.

1354. The

1354. The Intestines are lubricated by giving the Child Oyl of Lynfeed, Olives, Sweet-Almonds, &c. and by giving them Glysters of the same, or anointing the Belly and Anus.

1355. By which Method and Medicines you may surely promise your selves to overcome all those various and dangerous Symptoms, which drew their Origin from that one Root in (1350.)

1356. But if any where, it is here, that Alcalies and testaceous absorbing Medicines are very serviceable. *NB.* " Containing the Use and Efficacy of them see Dr. Harris his Treatise de Morbis Infantum.

1357. Opiates ought seldom and not but with the greatest Prudence to be made use of.

1358. And we ought also to avoid all such Things as do attenuate and stimulate too much, or are too volatil.

1359. As to each particular Disease and Symptom (of 1350.) a Remedy is easily found, the History of the Causes and Methods of the Cure of all the Diseases heretofore described being once well understood and remember'd.

1360. 3. They also suffer many Ills from the Milk itself, when that is too soon and too much coagulated and curdled in the Stomach, and is there kneaded together into one heavy and sharp Mass.

1361. For that same, being by degrees grown sharper and sourer, causes green Stools that smell sour, a continual vomiting of sour Stuff; hence Gripes, Flatusses, Pains, and a great many more ill Symptoms, but the frequentest and the most destructive

destructive to Infants are Convulsions, " which
" here in *London*, and the Neighbourhood, kill
" so many, that the Bills of Mortality wou'd
" constantly be a third less, if it was not for
" that Article.

1362. Which are cured with fixed Antacids,
together with a small Dose of purging Medicines,
the like Glysters, gentle Carminatives,
Oils given internally, and outwardly applied.

1363. The Epileptic Fits besides seem to
draw their Origin even from this Cause. The
System of the Nerves being irritated by that
vellicating Acrimony, which passing the first
Vessels, has found Means to enter the very Ca-
vities of the Nerves.

1364. So that if the same be curable, it ought
to be cured by the very same Remedies as the
other Convulsions in Children.

1365. 4. As soon as Children have got the
better of these Diseases, and begin to eat raw
Meats, Fruits, Flesh, Cheese, and the like,
they begin to be troubled with Worms.

1366. Their Cause and Origin they owe to
Eggs of Insects, which live in the Air or the
Earth, and which being swallow'd with other Al-
iments are not to be destroy'd by the small Mo-
tion which the Aliments undergo in the Body.

1367. They find and make their Nest in the
Slyme of the Intestines or Stomach, where they
stick, are nourish'd, breed more, and grow larger.

1368. Hence are full-grown People seldom
troubled with them, unless they be of a heavy
sluggish Temper and Dropfical.

1369. There

1369. There are some round, some flat and broad, and some very small call'd *Ascarides* ;
 " Which I conceive lodge themselves in the
 " Glands wherewith the thick Intestines do
 " abound.

1370. By their pricking they occasion Nauseatings, Vomitings, Loosnesses, fainting Fits ; a small, deficient, and intermitting Pulse ; an itching at the Nose, and Epileptick Fits.

1371. By the great Consumption they make of Chyle, they cause Hunger, a Paleness, Weakness, Costiveness, hence a Swelling of the Belly, Belchings and Fartings.

1372. They'll often eat even through the Coats of the Intestines.

1373. Which is the Cause of their proving frequently mortal.

1374. They are known from the Age, Diet, Constitution of the Patient, and their several Effects (1369, 1370, 1371.)

1375. The Cure is effected, 1. By destroying the Nest (1366.) with fix'd Alcalies, Slymepurging Gums and Rosins, Mercurials, Antimony, and bitter Aromaticks.

1376. Then by anointing the Belly externally with the strongest Aromatrick Balsams, with an Addition of purging and oleous Ingredients.

1377. 2. By killing the Worms ; which is done with Honey, Salts, and such Things as the Worms cannot digest ; bitter Aromaticks, Mercurials, Acids, and Vitriol incorporated in Steel or Copper.

1378. By

1378. 3. By driving them out alive or dead with bitter Purges, Phlegmagogues, and Mercurials.

1379. Nor are Clysters, Suppositories, and external Ointments of small Use here. *NB.*
" Consult *Alexand. Trallianus* among the Ancients, and *Andry* among the Moderns; the first whereof has left a short but excellent little Treatise, and the latter has been very diligent in enquiring into the Nature, &c. of this Disease.

1380. When the Teeth begin to appear, and chiefly those that are sharp and somewhat pointed, there arises an Inflammation, Tumor, Gangrene, Convulsions, green loose Stools, a Salivation, Fever, and even Death, from the Tension, Puncture and Tearing of the Gums, which are very nervous and full of Blood-Vessels.

1381. All which may easily be demonstrated to proceed from one and the same Cause.

1382. And all these Effects cease by removing only the pricking of the Nerves (1380.)

1383. Which is effected 1. By softning, cooling, and assuaging the Gums with soft and glutinous Antiphlogisticks. 2. By rubbing them with hard but smooth Bodies. 3. By laying the Teeth bare with the help of a Launcet.

1384. The Convulsions hereby occasion'd are happily remedied with moderate Doses of Spirit of Hartshorn.

Of the Small Pox.

1385. Because this Disease is most common to Children, we treat of it in this Order; whereof *Sydenham* has given so true and full an Account, that after ten Times reading, I thought I could say little more about it; and it appears from his very History that this Disease may also be reduced to the same Simplicity as all the former we have treated of: And also, that there is still a Deficiency in the Method of curing the same.

1386. It most Times rages epidemically, beginning first in the Spring, encreasing with the Summer and hot Weather, more languid and less fierce in Autumn, and ceasing most entirely at the Approach of Winter or cold Weather; waiting again for the Spring to be as general, and proceeding in the same Order as before. The sooner it begins in the Winter, so much the fiercer, and the later so much the gentler will the Kind be for that Year. Hence it appears in what Season of the Year the Small Pox is dangerous.

1387. It invades all Ages and Sexes, but chiefly Children, and those that hitherto have not had it: The more Age has dissipated the Humours, and has render'd the Solids compact, that is, the more People are grown, so much the more violent and dangerous is this Disease; hence do more easily escape Children, Women, and those of a tender and lax Temper; and on the contrary a greater Hazard attends Men, such

such as have been laborious and antient Men or Women.

1388. This Disease, though epidemical, yet is catch'd from another who had it first by a Contagion : Which at first seems to be in the Air, and to be transferr'd into the Lungs, Mouth, Nostrils, Gullet, Stomach and Intestines, and consequently has yet but a small Share of a poisonous Quality.

1389. This contagious Matter being mixed with the Humours, doth immediately produce Effects that follow one another pretty near in the following Order and Method : A Standing of the Hair, a cold Stiffness, acute Fever, a great and continual Heat; a shining and sparkling of the Eyes from a thin and hot Liquor fallen therein; a violent Pain in the Head, Neck, Limbs and Back, chiefly towards the Parts that answer the Position of the Pit of the Stomach ; Vomiting, Nauseousness, great Restlessness, Dosing, Sleepiness, and, in Children, epileptic Fits.

1390. Blood let out of the Veins in that first State (1390.) appears fine, and like unto that of healthy People; but on the second, third, or fourth Day it appears inflamed like that of pleuritic People (384.) and so much the more, as the Illness is of older Date and fiercer.

1391. This first State lasts more or less according to the various epidemical Constitution of that Year, the Violence of each particular Case, the Constitution of the Patient, and the

D d 2 different

different Season of the Year; the longer it lasts of its own Accord, so much the gentler is the whole Disease like to be, and so on the contrary. " How unreasonable therefore, and destructive is the common Method of most Apothecaries and Nurses, who gorge their Patients with cordial Powders, Bolusses or Juleps, as soon as they have any certain Signs of the Small Pox ? about which Error we shall be more particular anon.

1392. So that the whole Disease in this State (from 1375, to 1380.) seems to be an increased Quickness of the Liquids, by an inflammatory stimulating Power dispers'd thro' the whole Mass of Blood.

1393. So that this Disease (1380.) hath Affinity with all acute inflammatory ones, and in this State is but difficultly distinguish'd from 'em: But the Knowledge of its epidemical Nature for that Year, of the Patient's Constitution who seems that Way disposed, of the Probability of his having contracted it by Contagion from his Relations, Servants, or Neighbours about him, and the Symptoms which have thereupon ensued, such as in (1388.) All these together do shew that this Distemper is actually present, and that the Pustules of the Pox will infallibly break out and appear in the second State, whereof anon.

1394. When that first State of the Small Pox is certainly known to be present by what has been said (from 1385, to 1392.) this seems to be the most natural Indication; That, *having removed*

removed the inflammatory Stimulus, this present State be so far cured as to hinder its passing into its second State, or Stage: that is, the Suppuration, Gangrene, &c. or any other Consequences of the Small Pox in that second State.

1395. That Stimulus one may hope to remove by correcting it either with Specifics, or by the general Method to remove Inflammations and their Effects.

1396. The Specific Corrector ought to be some particular Medicine directly opposite to the Nature of that contagious Poison, which though received into the Body in never so small a Quantity, is yet able to produce all those wonderful Effects of (1388, 1389.)

1397. That such a Specific may one time or another be found we have some Hopes, when we inspect the History of other Antidotes, and see how long some have remained unknown, and how their Production has been more owing to Chance than any Design: And the great Use it would be of to Mankind in general, ought to encourage the diligent Part of Chymists to go on in the Search for the Philosopher's Stone.

1398. And to seek for it in some Preparations of Antimony and Mercury brought to a great Degree of Penetrability, without being too corrosive by a saline Acrimony, but well united. They ought to be encouraged from the Success that Medicines of this very Nature have sometimes met with in the Small Pox.

1399. The general Method seems also allowable in this Disease, and by repeated Experiments it appears, that those Things ought to be done and made use of, which have been found effectual in all inflammatory Cases, to prevent the Inflammation's passing into an Imposthume or a Gangrene: For as that succeeds in all other Diseases, no Reason can be given why it should not here, and you'll often find a Small Pox Fever without any Small Pox at all breaking out; " And the Patient in all Probability never be in Danger afterwards of having them more than any other that has had 'em break out effectually: Which I do protest to have seen more than once, by having boldly followed the general Method here recommended; but it ought seldom to be attempted in Children; the Success I have had has been in grown People.

1400. This Method must consist in the following Rules: 1. Let Blood after the Manner prescribed in (854. N^o. 1. 890. N^o. 1, &c.) 2. Loosen the whole Skin both outwardly and inwardly with Clysters and Fomentations, Gargles and Drinks used in great and repeated Doses. 3. Make your Patient drink Quantities of very thin Water-Gruel, with some Juice of Oranges, and salted with Nitre; Give him repeated Doses of *Nitre stibiated*, *Sal Polychrestum*, or *Mirabile Glauberi*, and Milk and Water to drink. 4. Let his Diet be of the thinnest; the Air he breathes coolish; his Body well covered so as to promote Transpiration,

but avoid throwing him into great Sweats.
“ More People are lost in the Small Pox for
“ being thrown into large and violent Sweats
“ in the Beginning of the Eruption, than for
“ all other Errors committed at all other Times:
“ The Reason is, because great Sweats drain the
“ small Blood Vessels of the necessary Fluid, by
“ which Circulation is impeded, the Blood coa-
“ gulates, whence the Inflammation is hurried
“ on into a Gangrene, without being able to fi-
“ nish the necessary Work of Imposthumation
“ in the Glands of the Skin, or of being diffi-
“ pated by proper Means, mentioned in (1399.)

1401. For though Physicians and Nurses do seldom think of this Indication in the Small Pox, and less still of this Method (1398, 1399.) Yet as mere Chance has frequently approved the same, when the Physician not aware of the Small Pox, made use of it (which he would have been afraid to do, if he had suspected it,) we see no Reason why we should not oftner attempt the same, notwithstanding the vulgar Opinion of prejudiced Physicians and Nurses.

1402. When this Disease has run off its first Stage, which I call that of Contagion, it enters into its second, which it doth after the following Manner: The Skin first of the Head and Face, then of the Hands and Arms, and then of the Body and lower Parts, and Limbs, is marked with small red Points like Flea-bites; thereupon all the Symptoms (of 1388.) do abate; the red Pustules increase every Hour in Largeness and Number, they conti-

nually rise higher and higher, inflame more, the Skin is stretch'd; they begin to pain, to burn; the Circulation is interrupted, the Transpiration hindred; hence a greater Return of the Humours towards the inner Parts; a Fever arises, with Anxieties, Difficulty of Breathing, a Pain in the Jaws, a Quinsy, a looseness, *Bloody Flux*, *Bloody Urine*, spitting of Blood; the Parts of the Skin free from Pustules are red and inflamed, painful and hot; all which, or most of which, when they have lasted four, five, or six Days, are now entirely suppurated and converted into as many small Impostumes. Therefore I call it the Stage of the Inflammation until the Suppuration; it lasts (according to the Difference of the epidemical Constitution and that of the Patient, the Greatness and Violence of each particular Case, and the Regimen hot or cold made use of) most Times four or five Days; so that the Suppuration be compleated about the eighth Day, reckoning from the first Beginning; and then is the Blood, when let out of a Vein, extremely inflamed.

I hope the Importance of the following Observation will excuse the Length of it.

" That *pissing of Blood*, in the first Days
 " of the Small Pox, is one of the worst Sym-
 " ptoms, of which few recover, is owned at all
 " Hands. Dr. Sprengel in the Appendix to his
 " elaborate Translation of Hippocrates's Apho-
 " risms, Sect. XVI. N°. 19. affirms without
 " any Restriction, *That pissing of Blood, which*
 " happens

" happens mostly in young Men is mortal. Which,
" besides his own Experience, he was proba-
" bly encouraged to determine thus from what
" we read in *Sydenham*, who in his excellent
" Treatise about the regular Small Pox of the
" Years (1367, 1668, and 1669.) speaks thus.
" *Adolescentum vero & ætatis flore vigentium*
" (*præcipue si vino aut alio quovis liquore spiri-*
" *tuoso se nimis impleverint) usque adeo in hoc mor-*
" *bo nonnunquam sanguis accenditur, furitque,*
" *ut per arterias & vesicam viam sibi faciat, &*
" *qua data porta ruat; quo quidem Mictu san-*
" *guineo vix aliud Symptoma pejoris notæ atque*
" *ominis invenire licet per omnem hujus morbi*
" *tragædiam.* The Reason is, that it argues
" either so violent and so general an *Inflam-*
" *mation*, as to break considerable or many
" Vessels in the urinary Passages; or, so great
" a *Dissolution* of the Texture of the Blood,
" as not to leave much Hopes either of an en-
" tire Dissipation of the variolous Matter (in
" the first Case) and Fever without the Erup-
" tion, or of a prosperous Change of the Inflam-
" mation into Abscessusses over the Surface of
" the Body.

" I hope therefore that I shall deserve some
" Thanks by relating the *History of a Cure per-*
" *formed with a Medicine hitherto untried in*
" *this or the like Case.* A Servant of Mr.
" Ellis, a Youth of about Eighteen Years of
" Age, was on the 18th of July, 1718. taken
" with the usual Symptoms of the Small Pox:
" He had overheated himself with walking,
" and

“ and then drank a large Quantity of Small
“ Beer: a very common Occasion of most vio-
“ lent inflammatory Fevers. His Master of
“ his own Accord ordered him a Vomit of
“ *Sal. Vitrioli* 3*fl.* on the first Day. On the
“ second Day, being rather worse, he was let
“ Blood in the Morning. The Apothecary of
“ the Family (Mr. H I G H A M) was sent for:
“ According to the Account I have under his
“ Apprentice's Hand, Alexipharmics led the
“ Van, and a Blister was applied to the Neck.
“ On the 3^d Day he still grew worse, the Fe-
“ ver high, the Patient Light-headed. Instead
“ of Bleeding him again, they gave him still
“ more volatil and warmer Medicines, repeat-
“ ing the Doses pretty fast, much after the
“ Method of the late Dr. Richard Morton, who
“ wrote against *Sydenham*, and condemned all
“ cooling Medicines and *Acids*. Cephalic Plai-
“ sters were applied to the Bottom of his Feet,
“ intended for a (far-fetch'd) Revulsion. On
“ the 4th Day, he continued worse; some Spots
“ appeared upon him; at which Time he was
“ removed to a Nurse's near *Soho-Square*; and
“ for fear he might have caught Cold in the
“ Removal, Cordial Powders, Bolusses and
“ Juleps were repeated: Some Opiates were
“ given, but to no Purpose; he grew still more
“ and more restless and *delirious*, in the very
“ Manner which *Sydenham* so well describes;
“ getting up in the Bed, seeming to know no
“ Body, being afraid of every Body, not caring
“ to be touch'd, and endeavouring to run a-
“ way.

" way. That Night he began to make a great
" Quantity of bloody Urine.

" The Morning of the 5th Day, I was cal-
" led in, I found him as just mentioned, with
" a very low, depress'd, and quick Pulse; his
" Urine most all Blood; and the Spots very
" little discernable.

" If the Quantity of Blood had been less,
" I might have concluded from the Lowness
" of the Pulse, and the Slowness of the Erup-
" tion, that the Vessels were choak'd with a
" Quantity of Blood proceeding from the too
" many hot Cordials; but that Diagnostic made
" me desist from attempting any Revulsion or
" Resolution of the Obstructions by Bleeding:
" And I chose by softning and thickning the
" Juices to stop the bloody Urine, quiet the
" inordinate Motion of the Spirits, and conse-
" quently enable Nature to work the Erupti-
" on of the Small Pox. I prescribed thus,

" Rx. Gumm. Arab. 3*lb.* *Diascord.* s. m. 3*j.*
" Syrup. caryophyll. q. s. m. f. *Bolus.* sumat sta-
" tim, repetendo tertia quaque hora, dum vigila-
" bit, superbib. haustum *Emulsion.* seq.

" Rx. Sem. Papav. alb. *Hyoscyam.* ana 3*ij.*
" Amygd. d. excort. N^o. X. contusis affunde
" Aq. Fl. Paral. Sperm. Ran. ana 3*viiij.* —Cin-
" nam. bord. 3*iv.* Syrup. *Diacod.* 3*ij.* m. f. f. a.
" *Emulsio.*

" Being very desirous to make a Cure, if
" possible, of this most dangerous Case, I vi-
" sited him again in the Afternoon. I found
" his

" his Stomach had rejected the Medicines, and
 " he was in the same Way. I imputed it to
 " the Emulsion, which I have in other Cases
 " known to disagree with some Stomachs, tho'
 " a pleasant Medicine to the Palate: I order-
 " ed the Continuation of the Bolusses, but
 " with the following Julep.

" Rx. Succ. Limon. rec. Syrup. e Mecon. ana ȝij.
 " Aq. font. ȝxx. m. f. Jul. de quo sumat quoties
 " custos persuadere quiverit, & si ab hocce ali-
 " quoties sumpto dormiverit, tum pro potu commu-
 " ni paretur Limonada communis, de quo bibat ad
 " Libitum.

" He slept all Night, and upon waking the
 " Delirium left him, and he continued sensi-
 " ble all the while after. His Urine was some-
 " what less bloody; his Pulse continued low,
 " but more regular, and not so quick; the
 " Small Pox very little more appearing. Yet,
 " beginning to conceive some Hopes, I studied
 " how to render the Medicines still more effi-
 " cacious: And looking at that very Time af-
 " ter a Patient in a Diabetes, whom, among
 " other Things, I had ordered THE BRISTOL
 " WATERS, after some Thought, I resolved to
 " try them in this Case; and consequently on
 " the sixth Day I prescribed thus,

" Pergat in usu Boli ante præscripti superbi-
 " batque haustum sequentis Julapij, de quo etiam
 " per intervalla bibat.

" Rx. Succi Limon. rec. Syrup. e Mecon. ana ȝij.
 " Aq. Bristol. ȝbij. m. f. Julapium.

" Upon

“ Upon this on the seventh Day I found his
“ Water much less in Quantity, and Blood on-
“ ly at the Bottom of the Pot, the Top of the
“ Urine being transparent for the first Time.
“ Yet was the Pulse very low, and the Erup-
“ tion extremely backwards: So that to put the
“ last Hand to the Removal of that Symptom,
“ which seemed now the only one, that retard-
“ ed the Eruption, and not daring to give any
“ sort of Alexipharmics for fear of bringing
“ former Mischiefs back again, I ordered the
“ following Medicines.

“ Rx Lapid. hæmatit. Terr. Japon. ana gr. v.
“ Laud. op. gr. 3. Gumm. Arab. 3. Syrup. de
“ Symphyto p. f. m. f. Bolus. Sumat quampri-
“ mum & repetatur sexta quaque hora, donec
“ sanguinis mictus omnino sit suppressus, cum largo
“ haustu Julapij sequentis.
“ Rx Succ. Limon. Syrup. Diacod. ana 3ij. Aq.
“ Scord. comp. 3iv. Aq. Bristol. ibj. m. f. Julap.
“ de quo per intervalla sumat haustum.

“ I must not omit, that I ordered him daily
“ a Clyster of thin Water-Gruel, to cool and
“ foment the Parts near the Kidneys and the
“ Bladder. His Diet also was chiefly of Wa-
“ ter-Gruel, with Isinglafs.

“ The very next Day after the last Medi-
“ cines there was scarce any Blood in the U-
“ rine, and on the succeeding, which was the
“ tenth, it entirely disappeared.

“ Being

“ Being about that Time obliged to go for
 “ a few Days a little Way out of Town, I re-
 “ ceived a Letter from the Apothecary, inti-
 “ mating that all went on very well. To
 “ make short, the Effect of the *Bristol-Water-*
 “ *Limonade*, as above described, was such, that
 “ the Apothecary on the eleventh ventured on
 “ his Cordials again, though more temperate
 “ ones, and that no ill Consequence attended
 “ the Use of them. From that Time the
 “ Small Pox began to shew itself all over; the
 “ Patient was very much swell'd for seven or
 “ eight Days, and when about that Time I re-
 “ turned to Town, I had the Satisfaction to
 “ see it was the distinct Sort, and now as fa-
 “ vorable as any I had seen.

“ About the twentieth Day he was purged
 “ this first Time, and in two Weeks after he
 “ was perfectly well recovered.

“ From this History I beg Leave to observe,
 “ that the great Quantity of Blood which he
 “ voided by Urine, was most probably the Rea-
 “ son not only of his Small Pox proving of the
 “ distinct Kind, but also coming out so late;
 “ that whereas it is usually at the Height by
 “ the eighth or ninth Day, here it prov'd the
 “ fifteenth or sixteenth, and for that Reason
 “ prov'd so safe in the Event, contrary to the
 “ vulgar Opinion, most being solicitous about
 “ the Backwardness of the Eruption; but a-
 “ gainst which Error our Author in (1404.)
 “ after a due Examen of the Nature and Histo-
 “ ry of this fatal Disease pronounces this Gol-
 “ den

“ den Sentence, which every Practiser in Phy-
“ sick ought never to lose out of Sight, viz.
“ *The slower the Pustules break out, &c.* From
“ all which I dare venture on this Rule, That
“ if in all young, sanguine People, who have
“ lived well or luxuriously, or have overheated
“ themselves, as soon as from Circumstances it
“ may be judg'd, that they are going to have
“ the Small Pox; if the Method of Bleeding
“ more than once and plentifully was followed,
“ as recommended by our Author, and approv'd
“ by many learned Physicians, chiefly, if the
“ Pulse beats strong, and the Pox seems to
“ hurry out too fast, that abundance of Lives
“ would be saved, and that many of the conflu-
“ ent Sort, that is, the flux'd Kind, would
“ prove of the distinct, which is the least dan-
“ gerous Sort.

“ Some of my Readers may perhaps object
“ against this long Observation, That Others
“ before me have cured pissing of Blood in
“ the Small Pox without the *Bristol Waters*,
“ with Acids, Astringents, or Camphire. I
“ own that I have read of some Physicians of
“ Note, who used Camphire in this Symptom,
“ but I do not find that they boast of much
“ Success. And there is an ample Relation of
“ such a Cure in Dr. Fuller's *Pharmacopæia*
“ *Extemporanea*; but there you may see it was
“ effected with abundance of Difficulty: And
“ I cannot think the famous *Spirit of Vitriol*,
“ though recommended even by Sydenham, so
“ agreeable, nor so safe, as the vegetable Acids.

“ But

" Being about that Time obliged to go for
" a few Days a little Way out of Town, I re-
" ceived a Letter from the Apothecary, inti-
" mating that all went on very well. To
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“ effected with abundance of Difficulty: And
“ I cannot think the famous *Spirit of Vitriol*,
“ though recommended even by Sydenham, so
“ agreeable, nor so safe, as the vegetable Acids.
“ But

" But let it be how it will, I do expect Thanks
 " for the Addition of *Bristol Waters* in this and
 " several other Cases not to be mentioned here;
 " and I have often wondered that I should be
 " the first that ever try'd it, since, from their
 " Efficacy in a *Diabetes*, the Inference to this
 " Case was so easy.

1403. If the first State of this Disease (from 1388, to 1390.) be violent, that the Pustules be many, very near to each other, intangled and mixed with each other, all the Signs of an Inflammation be great, the Patient's Constitution be of an oily saline Nature, he in the Vigour of his Age, has lived high, taken Medicines or Aliments much increasing the Motion of the Liquids, the Summer be very hot; then towards the End of the inflammatory Course there appear little Bladders full of a reddish Lympha, Signs of an approaching Gangrene (See 427. No. 5.) hence doth the Skin become unfit for Circulation and Transpiration; hence a forcible Return of the Humours upon the internal Parts, hence a large Salivation, and a great Swelling of the Feet and Hands.

1404. From these may be learned the Dianostics and Prognostics of the second State of the Small Pox, and the Rationale of it, and all its Symptoms, which will be plainer still by the following Rules.

The gentler the State of Contagion, the easier also is the inflammatory State.

The flower the Pustules break out, and the longer therefore the State of Contagion, the easier

easier and kinder is the whole Course of the Disease through all its Stages.

The fewer, more distant, bigger, more remote from the Face, whiter and afterwards the yellower the Pustules are, and the later they appear; so much the better Event do they promise.

The more in Quantity, more mixed and intangled, the less in Bulk those that stand single, the more they are upon the Face, tawny, or black, and the quicker they grow; so much the worse.

The more the Matter of the Pustules is like to kind and perfect Pus, the better.

The more the Matter of the Pustules resembles a gangrenous Ichor, the worse.

The more the Space between the Pustules looks red, is hot, stretch'd, and swell'd about the Time of their imposthumating, so much the greater Hopes, because it is a Sign of the Circulation being preserved there.

The more that same Space looks paler, or grows tawny, so much the worse; there follows a mortal Quinsy or Peripneumony, unless a thin Salivation, or a great Swelling of the Hands or Feet doth ensue; the Reason is that the Circulation of the Liquors is cut off in these Parts, and drove back and increased in the internal nobler Parts.

If in the Places between the Pustules there appear Purple Spots, it is an Argument that a mortal Gangrene is at hand or present.

1405. The Indication in this second State (1401.) is different according to the different Time that the Disease has lasted, and is like to last: For in the first Beginning of the external Inflammation shewing it self, it seems reasonable to endeavour to prevent its proceeding to an Impostumation, of which we have already spoke (in 1398, 1399.) Or, if that be neglected, Care ought to be taken that the Suppuration be as little as possible, and be promoted slowly, and far from the Head: Which is effected, 1. By keeping the Patient to that thinnest Diet, which at the same Time is contrary to Putrefaction. 2. By giving him diluting, soft and tart Drink. 3. Medicines contrary to the making of much Pus, such as are opening and diluting in great Quantities, and continually given. 4. Bathing of the Feet repeated twice a Day, fomenting them continually with something lukewarm; Blisters applied to the Hollows of the Feet and Knees. "I am ignorant what Authority our Author has for bathing of the Feet twice a Day in this Case, or how much he may have experienced the Benefit of so doing, but sure I am, that a Physician that should propose it here in *England*, would be as much stared at as was lately the *High German Fire-Eater.*" 5. A cool Regimen, and chiefly by the Admission of a clean and cold Air, but covering at the same Time the Limbs and lower Parts of the Body very warm. And these things ought to be done immediately upon the first Invasion of this

Disease. 6. If the Distemper proceeds too violently on the fifth Night, you may give safely and to an Advantage some Opiates, not neglecting at the same time doing all that has been recommended before.

1406. After the running off of this second Stage (1401.) follows the third State, that of Impostumation, during which that increases and arrives to its Height: In this the Pustules already purulent do every Day grow larger, then ripen, turn white, yellow, and break on the third or fourth Day of this State. Then doth the whole Skin and its subjacent Fat abound with a moveable Pus, it is dried externally, and inflamed in every Place free from Pus; hence, from the Impediment of Perspiration and Circulation, from the Irritation of the membranous and nervous System, from the soaking of Pus into the Veins, there grows a Fever of the worst Kind, with the worst Symptoms: If this purulent Matter mix'd with the Blood is moved long, it putrefies (82. 100. 406.) hence, according to its falling upon different Parts of the Body, it produces cruel and scarce superable Effects, as are Deliria, Phrenses, Quinsies, Peripneumonies, Pleurisies, Vomitings, Bloody-Fluxes, Inflammations of the Liver, and Impostumations of the same; Boils, Tumors, Abscesses, and Stiffness of the Joints; a Wasting, Consumption, and innumerable more Evils.

1407. And if then the matter be thinner, sharper, and the Disease very violent, the Skin, Fat, and Flesh are all eat away; thete grow

wide, ill natur'd Ulcers, often penetrating to the very Bones, and very homely disfiguring Scars.

1408. In that third State (1405.) the Physician ought to promote the Exit of the Pus to the external Parts, driving it from the Internals; which is done by relaxing the Skin with luke-warm loosening Fomentations, constantly, tho' with much Trouble and Nauseousness renewed; A constant washing and gargling of the Mouth and Throat; drinking much of warm, cordial, detergent, aperient Decoctions and contrary to Putrefaction; Injecting daily a gentle, diluting, emollient and loosening Glyster, to be kept long in order to bathe the Intestines; "This Precept is going a greater Length towards purging in this Stage of the Small Pox, as Dr. Mead, Freind and others in London do practise at present, on emergent Occasions. For the Difference, betwixt giving sometimes a gentle Dose of a Rhabarbarine Purge, and injecting daily an Emollient and Loosening Glyster, is next to nothing: Of the two I think the first preferable, because it cleanses and opens the Glands of the Intestines all along, and is less apt to throw the Patient into a Looseness: The Caution of giving an Opiate with it, or at Night is observ'd in both Cases.

" This, in my Opinion, is more than answering the Wishes of our Author in 1397. and 1398. who recommends to look out for, and hints himself at some Specifick in a Preparation of Mercury and Antimony; which indeed mere Chance may produce, but is hardly

"hardly to be hoped for. It was therefore very ungenerous in Dr. Woodward to fall on those Gentlemen, as if they play'd with the Lives of their Fellow-Creatures; How much more reasonable had it been to impute it to their great Concern, to find so many miscarry of this Disease, when treated after the hitherto best approv'd Methods? And, pray, who should venture on new Methods, but such Physicians, that have the most Opportunities and best Qualifications to trace and observe the Effects of new and old Medicines? Those Gentlemen do not envy Dr. W—d his Successes in the Use of *Emeticks* in the same Case; they practise it themselves on some Occasions; but they know, that Emeticks very often will not operate here, because of the Insensibility of the Nerves and Coats of the Stomach, and the Quantity of Filth accumulated there, in which an Emetick is drown'd.

"I sav'd myself very lately a Gentleman's Servant in Westminster, when thought to be at the point of Death, by giving him an Ounce of *Infusio Croci Metallorum*, and half an Ounce of *Tinctura Rhabarbari*: But I can prove that in a young Woman of about Twenty, on the 12th Day of the flux'd Pox, when she was thought irrecoverable, I gave near four Ounces of the same Vomit, with more than two Ounces of Oxymell of Squills, without causing the least motion to vomit, so that she must unavoidably have died, if I had not thought of a strong purging *Decoction*

"with *Oxymell*; which not irritating the Intestines, but entering the Lacteals, set her a spitting such vast Quantities, as if it had been a Salivation rais'd by Mercury, and sav'd her Life, though as through Fire, having occasion afterwards to bleed and purge her innumerable Times before we could dissipate and void the Matter of a vast number of Boils. And, what should have oblig'd Dr. *W—d* to use these Gentlemen with a little more Mercy on this Account, supposing he had prov'd it an erroneous Method, is that Dr. *Helvetius* has long ago practis'd the same in France, and, as he affirms, with Success.

"Before I leave this most important Subject, I must answer an Objection commonly made against Bleeding, when the Small Pox is out or coming out, pretending, that it strikes it again. But who doth not know, that when Bleeding has been omitted, chiefly in grown, sanguine or luxurious People at the beginning of this Disease, that it kills vast Numbers with an Inflammation of the Lungs or Lung-Pipe, unless yet timely saved by large and repeated bleedings. An Instance of which the Apothecary lately mention'd (Mr. *Higham*) can witness. Having call'd me up in the Night, he carried me to *Richmond Street, Soho*, to see a Boy of about ten Years old, extremely full of the confluent kind, and then in the 11th or 12th Day. His Spitting was suppress'd, the Pulse fluttering, but very full, breathing with the utmost Difficulty, and his

"his Eyes ready to start out of his Head. I
"told the Parents, I knew of no Remedy but
"Bleeding a large Quantity immediately; It
"was a new Doctrine to 'em, but I prevail'd at
"last: At Nine the next Morning I insisted on
"a second Bleeding for the same Reasons: At
"Six in the Evening, I obtained he should be
"bled a third time; all which, though amount-
"ing to upwards of thirty Ounces of Blood,
"wou'd not have sav'd him: I could scarce have
"been time enough with him the next Morning,
"when probably I durst not have insisted on a
"fourth Bleeding for fear of Reflections, if he
"had died; but Chance sav'd him; his Arm
"untied in the Night, and bleeding a great
"Quantity in his Bed, before it could be stop'd,
"I had the Satisfaction of seeing my self justi-
"fied in my Practice, and they that of saving
"their only Child." Dieting upon Flesh-Broths
duly salted and sour'd; allowing now and then a
moderate Draught of good generous Wine;
giving also against some violent and troublesome
Symptoms a sufficient Dose of Laudanum or
Opium.

1409. If the Small Pox proves to be of the
worst kind; that there is rather a gangrenous L-
chor than Pus; that almost the whole Skin is ob-
fessed with it; it easily appears why this Disease
is so unavoidably fatal notwithstanding all the
possible Care taken; And it will be much plainer
yet to any one acquainted with Dissections, that
as the external Skin is full, so the Eyes, all the
Membranes of the Nostrils, all the Covers of

the Mouth, the Windpipe, the Bronchia, the Stomach, the Gullet, Intestines, Liver, Spleen, and Lungs are full of the like Pustules; and hence he will understand what has been said, and sees what is requisite for the Cure; and whether the Greatness of the Disease, the Loss of so many that die with it, after all the fam'd Remedies have been so often tried in vain, ought not to stir up the Industry of good Physicians, *To try all the great Medicines from the beginning of its Invasion:* For by the common Methods few do escape, but such as would have been saved, though nothing at all had been done to them. Inoculating seems to be a sure and safe way of Prevention. *NB.* "I cannot help "joyning heartily in this Opinion of our Au- "thor, and must add, that in this Disease a good "Physician ought from the beginning to do "every thing, as if he knew that all the worst "Symptoms would ensue, if not prevented: "But this I wou'd again have applied only "to grown People.

Of Epidemical Diseases.

1410. It ought to be observ'd above all things, that the Diseases of the Fluids hitherto described, though they seem the same to the unwary by their Name, most of their Signs and by some appearance of the same Event, yet by a hidden Quality, by Phænomena hardly taken Notice of but by the most skilful Judges, at the different times of the Increase, Height, Coction or Crisis, they

they differ vastly as to their Effect, Event, and Method of Cure.

1411. And that therefore they require a quite different Administration of the six Nonnaturals, another Method and different Remedies.

1412. The Cause of which Variety however is so dark, that the same hitherto has not been able to be assign'd to any one peculiar Error committed in the Nonnaturals.

1413. And yet as the same doth afflict many at a time, that the same may be avoided or kept off by either Wind or Fire, it is generally believ'd to be *in the Air*. "The last Year of "1719, may be set down amongst the most "remarkable for Diseases short of the Plague, "which has raged uncommonly in the greatest "Part of Turkey) particularly for continual a- "cute Fevers with and without purple Spots; "and for intermitting ones, by which great "numbers of People have been destroy'd all "over *England*, as well as in *London*, where "the Bills of Mortality, during the greatest "Emptiness of the Town, have amounted for "several Weeks together to about 800. The "Cause is assign'd to the lasting great Heats in "May and June, succeeded by a great Cool- "ness during the best part of July, and then a "Return of extraordinary hot and dry Wea- "ther during the Dog Days and half Septem- "ber, without scarce any Thunder or Light- "ning to purify the Air, or to cause some Re- "volution in the Atmosphere.

1414. And

1414. And in that, more because of the unaccountable Variety of Exhalations, which hurt our Machine either by their being mix'd with our Blood, or as they only stimulate, than of any notable Change of the sensible Qualities; as is known from Observation.

1415. And yet it seldom occasions Diseases but as one Man catches it from another, which is wonderful.

1416. And it is those Diseases, thus catch'd, that we use to call *Epidemical*.

1417. The Nature of them is known by the Rules laid down in (11, 12, 13.)

1418. But the Physician is guided to the Knowledge of a new Epidemical Disease hitherto unobserv'd by him, and he lay's his Plan for a Cure, 1. By referring the present new Case to such a Class of Diseases known to him, as is most resembling it. 2. By observing what sort of Disease invades and is most general about the Equinoxes of Spring and Fall. 3. By giving a particular heed to the spontaneous Phænomena which precede, accompany, or follow the Abatement or Increase of the Disease, and Health, or Death of the Patient. 4. By minding every thing which is necessary to be done, the Aliiments and Excrements, and what Good or Evil follows upon each Particular. 5. By comparing the Case of several that are ill at the same time. 6. By abstaining from any Remedy that is dubious, occasions too great a Stir or Alteration in the Body, and doth still more obscure the hidden Nature of the Disease.

1419. From

1419. From all which observed with the nicest Attention the Physician makes his Indication. *NB.* since *Hippocrates* no body has wrote "better upon this Subject than *Sydenham*, who "has left us an Account of all Epidemical "Diseases [in *England*] from the Year 1661, to "1675.

Of the STONE.

1420. Wherever in a Humane Body another certain Body altogether insoluble stops, there soon gathers upon it and about it a Crust more or less stony.

1421. If this happens in the Kidneys from the earthy part of the Blood dried up, there follows and grows a Stone in the Kidneys, taking its Birth chiefly at the end of the smallest Arteries there in the Shape of a Sand.

1422. Which, increasing there, gradually doth stop up the Kidney and choaks its Flesh, consuming the same, and drives it out in the Form of Clots of Blood, Pus, Caruncles and Skins, and corrupts the whole at last, exciting bloody Urine, pissing of Pus and fœtid black ulcerous Matters; and doth even occasion an Ulceration and Inflammation of the neighbouring Parts.

1423. When the same is moved from the place of its Birth (1420.) into the Pelvis, and from thence into the Ureter, into its Windings and narrow Passages, or the Orifice of the Bladder, it often causes a Suppression of Urine, with an inflammatory Pain.

1424. When

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1424. When it has pass'd through the Ureters into the Bladder, it is often soon and successfully expell'd.

1425. If it remains in the Bladder it grows like an Onion.

1426. The Red original Kernel in the Center of the Stone always remaining, all the other Rows are red, white, ash-colour'd, or blue, and from these several appearing Colours one may know the several Degrees of its Solidity and Incapacity of being dissolv'd; which is attested even by Chymical Experiments.

1427. When it stops in the Bladder, it occasions an Inflammation and its Symptoms, a Pressure fretting Ulcers, pissing of Pus, Stranguries, an Obstruction of the Urethra; The Patient cannot make Water but in certain Postures, and chiefly lying upon his Back; it creates a Hectick Fever and a Consumption: Sometimes it is push'd into the Urethra, and there it stays incapable of going either forwards or back again into the Bladder.

1428. The Stone in the Kidneys is known from an obtuse Pain there, from a pissing of Blood after riding in a Coach, or other great Motion upon the Stones and rough Roads, upon any other violent Motion or straining of the Body, from having often voided some Stones, Skins, Pus, or Strings.

1429. That there is a Stone in the Bladder is known, from the Pain in making Water, before and after it; from the Water being made only by Drops, white with a mucous, thick, heavy Sediment

Sediment to a great Quantity, from an itching at the Gland or Head of the Yard, from an Inclination to go to Stool at the Time of making Water, by putting the Fingers up the Fundament and pressing towards the Neck of the Bladder, and by probing with the Catheter, and by observing the Symptoms (of 1425.)

1430. The Stone in the Kidneys requireth its being lessen'd, expell'd from thence, and thus steer'd, that it may not hurt much in its Passage.

1431. This is effected, 1. By keeping the Patient to a liquid, soft, thin, and pretty salt Diet; the Drinking of Water or something like it; yet keeping up the Strength of the Circulation.

1432. 2. The second is obtained by loofening the Vessels with Baths, Glysters, and relaxing oily Liniments; by making the Passages slippery with moistening Emollients, soft and gentle oily Medicines; opening them with Opates and Anodynes; driving them on with gentle Diuretics prudently managed, and with a gentle Motion, such as that of a Boat, or a very easy going Horse.

1433. 3. The third by preventing the Symptoms; that of Inflammation by letting of Blood, and other proper Remedies; that of Pain by Anodyne Emulsions; that of the Asperity of the rugged Stone by oleous, soapy, and glutinous Medicines.

1434. For

1434. For as to any true Dissolver or Specific for the Stone, none as yet deserves any Credit. "N.B. The ingenious Dr. *Cyprianus*, who has deserved a great Character for his Dexterity and Success in cutting for the Stone, told me some Years ago, that he had been at Work some Time in his Laboratory to find out a Specific Lithontriptic, but I told him then, that he would never succeed as long as he continued of *Van Helmont's* Opinion and others, who think that the Stone owes its first Birth and Increase to the volatil and spirituous Parts of the Blood: And hitherto I have prophesied right, for he is dead without having succeeded in his Attempt.

1435. When the Stone is fallen into the narrow Passages of the Pelvis, it requires the same means (from 1430, to 1432.) And chiefly Glysters, Fomentations and Bleeding.

1436. That the Stone is fallen through the Ureters into the Bladder is known from a foregoing nephritic Pain, from that Pain being afterwards felt in the Tract of the Ureter, from the ceasing of both with the Signs of (1428.)

1428. Then is it requisite to expel it forthwith, lest the same should stay behind to grow larger, and do greater Mischiefs.

1438. This is done by the same Means as from (1430, to 1433.) but applied to the very Part; by an oleous Bath, and the like Glyster, injecting of Oil into the Passage towards the

the Bladder, and by rubbing of the same gently to increase the Elasticity of the Fibres.

1439. Then ought the several Symptoms to be eased as they imitate and are of a Kin to this or another Disease.

1440. If the Stone is unmoveably stop'd in the Urethra, use Injections, Fomentations, sucking after the manner of the *Ægyptians*, stir it, and endeavour to pick it out with any proper Instrument, press gently upon it, or even make an Incision in the Penis, or a Puncture in the Perineum. "About ten Years ago I was call'd to the late Sir *William Langhorn*, at *Charleton* in *Kent*, then aged Eighty One, who had made no Water for above thirty six Hours, whilst I sent an Express away to the late Dr. *Cyprianus*, I endeavoured by all possible Means to remove the Stone out of the Urethra; but finding it impossible, and that the old Knight was in a Lethargy, and all his lower Belly and Genitals burning hot, I sent in haste for the nearest Surgeon; we cut through the Penis longways into the Urethra, and let out the Stone; upon which the Urine flow'd abundantly, and he recovered well enough so as about three Years afterwards to be married to a young Girl of Fourteen, and, as they say, to consummate the Marriage. The Wound was cured in a few Days with the *Unguentum Apostolorum*.

1441. If it be bigger, than what can be taken out by this Method, your Patient must undergo the Operation for the Stone.

1442. And

1442. And rather chuse to do it by the *Apparatus Magnus* as being the most certain.

1443. Yet is the Event of the Operation at all Times dubious, by Reason of some Things happening, which no Foresight could provide against, nor can any Art remedy.

1444. But in Women dilate the Urethra, for there is seldom Occasion to make an Incision in theirs to take out the Stone.

1445. If lodging in the Neck of the Bladder it stops up the Urine entirely and for a great while, so as to endanger Life, push the Stone back with a Catheter.

"The best Treatise about the Stone and the Operations for the same, is without Doubt
"that of Mr. Tolet.

Of the VENEREAL DISEASE.

1446. The Venereal Disease began in the Kingdom of *Naples* since the Year 1463, spread itself thro' the *French Army* there, from thence thro' *Europe*, and is still a very common Disease.

"NB. It may be true what *Sydenham* saith,
"that the Name of this Disease was not known
"in *Europe* before Travellers had brought it
"from *Guinea*; but it is amazing to me that
"either he, our Author, or any unprejudiced
"Lover of Truth, and Men of exact Reason-
"ing in all other Matters, should so far be
"blinded, as to believe this Disease new, and
"not to know its true Features in a great Ma-
"ny Passages of the Ancients both sacred and
"profane.

" profane. Dr. Sprengel in his first Aphorism
 " of the XVIIth Section concerning the *French Pox*, doth enumerate most of the Passages,
 " to which I refer the Reader; but neither he
 " nor any Body else, that I know of, doth
 " mention that plain Passage out of Plutarch,
 " in Otho's Life, in my Opinion past all cavil-
 " ling, which had our Author, or *Sydenham*
 " seen, it is impossible but Men of their Can-
 " dour and Equity would have altered theirs.
 It is as follows; *Besides, nothing gratify'd or gain'd the People more than his Justice in Relation to Tigillinus, who was a Person not only actually punished by the very Apprehension of Punishment, which the whole City required as a just Debt, but with several Diseases too, that he had contracted by conversing with lewd Women; And though the ill Consequences to which this Course of Life expos'd him, were generally look'd upon as Punishment enough, yet the People thought Life itself too great a Benefit for him to enjoy, who had been the Occasion of so many Men's Deaths.*

1447. Which is infective several Ways, for sometimes it is hereditary; sometimes Children get it by sucking unclean Nurses; some People get it by handling and conversing much with People whose perspirable Matter is very putrid, ulcerous and corrosive; dry Nurses will communicate it to Children, when having pocky Ulcers in the Mouth or Throat, they taste the Children's Pap or Meat; the most

F f common

common Way of infecting is by Coition, when the Liquids of the Genitals are infectious, &c.

1448. And it generally shews itself in that Part, where it was first contracted.

1449. Nor was it ever observed, that either Man or Woman did catch it by lying with one that was not infected already. "NB. This "Aphorism also I cannot give my Assent to, "being absolutely of Opinion, that a sound "Woman may bring it upon her by no other "Fault than too frequent Coitions with even "sound Men. See Dr. Sprengel's *Sect. XVII.*
"Aph. I.

1450. The Part (1448.) is first known to be infected sooner or later, according to the Place infected, the different Degrees of Virulence in the infecting Matter, and of Heat to excite and heighten it, and according to the Diversity of Constitutions, and shews itself by an itching Heat, small Inflammation, a whitish Speckle, which scales, gnaws, then grows mucous, and which cannot be cured by Medicines common in other Cases seemingly alike.

1451. Hence growing on, it first infects the adjacent and generally the external Parts with the like ulcerous Pustules, afterwards it reaches the internal Parts, as the Lips, Gums, Palate, Tongue, Throat, Nose, Brain, Lungs, Liver, Spleen, Womb, &c.

1452. Which

1452. Which slowly do drop a mucous, greenish Filth, eating into the Flesh, gaining more in Breadth than in Depth.

1453. Hence Chankers on the Outside of the Penis, and a Gonorrhœa on the Inside ; and in the Vagina a flowing of white Matter, which abundance will put off under the Denomination of *the Whites*.

1454. The Glands of the Groins in both Sexes tumefy, and Bubo's arise from a Communication of the Contagion by the lymphatic Veins to those Parts.

1455. And in Men you may see sometimes so great an Inflammation of the Penis, that it is often difficult to prevent its hastening into a Gangrene.

1456. The Testicles also will swell, grow painful, and often ulcerate from an inflammatory Tumor, having laid hold of the Vesiculæ Seminales.

1457. Caruncles also will grow in the Urethra, whence Stranguries, and an eating of the Urethra, of the Prostates, the Neck of the Bladder and the Seminal Vessels: The same Things do happen in the Organs of Women.

1458. Hence it is carried into the Limbs, with Night-pains, occupying the Middle of the Limbs ; and with a Stiffness of the Joints.

1459. Whence it shews itself in the Cartilages, chiefly those of the Nose, and Palate, which it eats through.

1460. Then occupying the middle Substance of the Bones, it produces a Caries there, chiefly in the Scull.

1461. Then do the Parts surrounding them rise into very ill-natur'd Imposthumus.

1462. It even raises them to hard Knobs, which first are but a little painful, but more acutely so by Degrees, till they corrupt all the surrounding Parts above them.

1463. So that the Signs to know this Disease by, are pretty plain.

1464. A Gonorrhœa or Clap, is cured by Bathing, Fomentations, Injections, Mercurial Purges often repeated, Emulsions, Balsamics, abstaining from all high Meat and Drink inciting to Venery, but on the contrary, living upon a small and thin Diet. "No Mention is made "here of *Gleets*, than which nothing is more "common or troublesome. A *Gleet* is a running of Matter not unlike that in a Clap, only "not attended with the same Symptoms, nor "infecting like a Clap: It is common to both "Sexes, and is generally occasioned by too strong "Purges, and Diuretics, or repeated Claps tho' "well cured: Whence the spermatic not only, "but the lymphatic Vessels of those Parts are "so much weakened as to lose their Spring: "Sometimes it proceeds from a Caruncle in "the Urethra, in which Case particularly Injections are proper. But for the Removal of "the general Cause, no Remedy is comparable "to the *Bristol-Waters*, with proper Directions.

1465. You

1465. You must go on in this Method till nothing unusual doth any longer drop from the Penis, or shews itself in the Urine.

1466. The Swelling of the Penis is cured with anodyne, discussing, and emollient Cata-plasmas, like Fomentations, and large Bleeding, and with all the Means of the foregoing Aphorism. (1464.)

1467. A Venereal Bubo is cured by dissipating the same with specific Plasters; or if that doth not easily succeed by suppurating, and after Apertior cleansing the same. " *NB.* This I know from undoubted and repeated Experiments to be good Practice, whatever the Generality of Surgeons or Clap-Doctors may clamour against it, and I have bled largely to help the dissipating of a Bubo; but then it was in the very Beginning, when I could command a Gonorrhœa to carry off the Matter, &c.

1468. Swell'd Testicles must be fomented as in (1464.) If it presses hard, you must bleed the Patient in the Arm; and you may ease it also with a Plaster about the Scrotum, and lift it up with a Bag, till it has returned to its natural Bigness. " *NB.* Nothing gives more Ease in this peculiar Case than Vomits, which chuse rather of *Turpethum* than any other, because it answers in more than one Respect.

1469. Pustules and Chankers must be consumed to the Quick with Mercurials, and then

cured with gentler Means, still with a small Mixture of them to the last.

1470. And you must all along use the internal Means recommended in (1464.)

1471. The Venereal Whites in Women are cured by the same Method as a Clap in Men.

1472. Not neglecting the most useful, detergent, soapy, and mercurial Washes and Fomentations.

1473. But when Pustules are dispersed all over the Body, Pains invade the Limbs, and nightly Uneasiness, large Bubo's, Gnawings of the Bones, an often renew'd Clap; all these shew, that the Patient is *Pox'd*, and nothing then will do but a Salivation by Mercury.

" Dr. MIS AUBIN affirms, that he possesses " a Medicine (it must be an Amalgama of " Mercury with another Metal) which cures " the most inveterate Pox without a Salivation, " and some of his Patients have affirmed " the same to me.

1474. Which to raise with the better Success, make your Patient first drink Plenty of Ptyfans for some Days.

1475. Then give him every two Hours a small Dose of Mercurius Dulcis. " NB. This " Method of salivating with internal Medicines is far the safest even in the Opinion of " several of the ablest Surgeons in *London*, " and it is nothing but Laziness or Covetousness that has prevailed upon the Majority of " Surgeons,

" Surgeons, who make a Bargain with their
" Patients, or who have nothing for their Pains
" in the Hospitals, to extol the anointing be-
" fore this Method.

1476. As soon as the Breath begins to stink, the Gums to ake, the Teeth to grow loose and stick out, then ought the Physician to attend carefully, and consider whether he ought to go on, to stop, or even to make some Diversion.

1477. If the Patient spits three Pints, or two Quarts in four and twenty Hours, it is sufficient.

1478. If he spits less, you must again give one or more Doses.

1479. If more than what his Strength can bear, you may suspend it with a gentle Glyster, Purge, or sweating Medicine.

1480. If the Mercury runs violently downwards, causing Griping and painful Stools, give an Opiate and Diaphoretic.

1481. If the Mouth, Gums, or Jaws, do swell or pain too much, you must use a soft, gentle, liquid Gargle or Wash, or a Glyster, Purge or Sweat.

1482. You must go on till all the Symptoms are vanished, which generally takes up thirty six Days.

1483. Then you ought for thirty six more Days to give him still now and then a small Dose of Mercury, to retain yet a small Spitting.

1484. Nor is there any other sort of Remedy requisite here to restore perfect Health.
 " NB. I must beg the Author's Pardon for
 " that; and I believe I shall have most Practi-
 " tioners of my Side, to declare for several
 " repeated Purges, and even Diet-Drinks for
 " some Time after the Salivation, partly to re-
 " move all the Mercury and its ill Effects
 " upon the Brain and Nerves, and partly to
 " restore the Tone of the Stomach and the
 " Blood.

1485. The Nodes are lessen'd with specific Plaisters as in (1466.) or by scraping the Bone after having laid it bare.

Of the Rickets.

1486. About the Middle of the sixteenth Century, there arose a new Distemper in the inland Parts of *England*, spreading itself from thence through that whole Kingdom, and all the Northern Regions of *Europe*, called *the Rickets*; now a-Days a very common Disease.

1487. It is never born with the Children, comes on seldom before they are nine Months old, scarce ever after they are two Years old, but most commonly between those two Ages.

1488. But it is generally more fatal to Children, whose Parents are of a weak and loose Contexture of Body, are idle, delicate, live in a plentiful Manner, delight in fat and sweet Meats,

Meats, eat little Bread, drink sweet Wines, and much warm Water; that have been exhausted, before they got them, by chronical Diseases, Venery, or old Age; chiefly if they were infected by the *French-Pox*, or had been weakened by many Claps; for those have generally afforded no other than decay'd Seed in the getting of their Children.

1489. But if the Child gets a Nurse that is likewise infected with those Diseases and Infirmities, then doth the Child grow so much the more ricketty, as he grows too hastily in Bulk.

1490. Chiefly if he be kept too cool and wet; If he is fed with watry, mucilaginous, raw Summer-Fruits, Fish, unfermented, mealy and sugar'd Aliments: If he lies a long while ill with an autumnal intermitting Fever, a chronical or acute Disease; if he be ill cured of any sort of Scurf, Wolf, Ulcers, or that the same be improperly suppress'd: If he be enervated with Bathing, Fomenting, Liniments, Ointments, or moist Steams; or if after the Manner of most Children in *Holland*, he be left in a continual, quiet, sitting Posture over a Close-Stool, with his Coats turn'd up.

1491. This Disease is known to begin in Children as do not walk yet, 1. From their very Age. 2. Precedent Causes. 3. From the Brothers or Sisters being affected with the same. 4. From a flaccid Tumour of the Head and Face. 5. The Looseness of the Skin. 6. Bigness

ness of the Belly, 7. A Leanness of all other Parts, chiefly the Muscles. 8. A Protuberance of the Epiphyses at the Joints of the small Bone of the Elbow, or the Ulna, the Shoulder, Knee, Tibia and Fibula. 9. The Large-ness of the jugular Veins and Arteries, while others grow less conspicuous and flat.

1492. But in them that had already begun to walk alone this Disease is known to be approaching, 1. From all the just mentioned having preceded. 2. From their slow, weak walking, Inclination to fall, their being unable to stand firm, or long, but always inclin'd to sit down; which soon changes into an Habit of lying down perpetually, and at last into an Impossibility of moving any Limbs, with a loose hanging Neck, and nodding of the Head. 3. From a forward Sharpness and Acuteness of Understanding, a clean Apprehension and quick Sense; when their Appetite and Digestion are all the while unimpair'd.

1493. When the Illness is at this Height those affected therewith have a large Head, with very large apparent Sutures; Their Chest is flat and squeez'd, as it were, on the Sides, but raised high and pointed on the Breast, with Nodes at the Extremities of the Ribs; Their Belly sticks out; Their Teeth are rotten and black; all which encreasing daily, do often leave Distempers of the same kind, troublesome all the rest of their Days, and chiefly the Spina Ventosa, and Rottenness of the Bones.

1494. And

1494. And during the whole Course of this Disease, a small slow Fever doth consume the Body until Death ; and then do all the Fibres, Membranes, Vessels, Entrails shew themselves soft, wither'd, the Humours all broken and slimy. So that we may conclude the proximate Cause to be a sluggish, slimy, cold, and vapid Cacochymie, perhaps with a Mixture of a conceal'd venereal Poison, together with a very loose Fabrick of the solid Parts.

1495. 'Tis best cured, with a light, dry, less fat Diet of an easy Digestion, season'd with the softest Aromatics, given often, but always in a small Quantity : With a generous Drink of either Wine or good Beer, not stale, but well brewed, and of the Nature of *Brunswick Mum*. A dry and warm Air. Very dry Cloths, sufficiently warm, and rather of Woollen than any other Stuff. Bedding, with some drying, strengthening aromatick Herbs in it, in the higher and drier Parts of a House upon wooden Bedsteads. By carrying them about, dancing them, or riding them up and down over the Stones to shake their Bones and Bowels, and thereby to strengthen them : By repeated, hot, dry Frictions with Flannels or aromatick warm Herbs, chiefly their Bellies and Back-Bones. By blistering them sometimes, giving them gentle but repeated Vomits, though with due Prudence. By purging them for some Days successively with a Rhubarb

barb or some other strengthening Purge. Lastly, by giving them continually strengthening Diet-Drinks that are at the same time drying, antiscorbutick and raising the Spirits. It is a Query whether the Cold Bath would not be advantageous to them? And whether any good can be done with any sort of Liniments?
“ NB. I answer, Yes; with the fine *Adeps humanus* upon the Spina dorsi, with a Mixture of some warm aromatick Oil.

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